October 2024

From sunrise to sunshine

The contribution of online gaming to the Viksit Bharat journey and India’s cultural power

pwc

Foreword

Games have been a defining feature of Indian culture and life. Our civilisation has learnt from games and grown with it. As a nation, we have contributed outdoor games such as **kho-kho** and **kabaddi** as well as indoor ones such as chess and snakes and ladders, originally known to us as **chaturanga** and **gyan chauper**, respectively, to the world. Over the years, we have also integrated and successfully mastered games such as cricket and badminton that were introduced to us.

In India, both indoor and outdoor games have traditionally been collective activities conducted with care and responsibility. Players are taught to respect their counterparts and ensure everyone's safety while participating. Umpires are treated with respect and their decisions are final and binding.

It is with this ethos that we the people must now engage with gaming and transform it into one of the key drivers of a Viksit Bharat with the soft power to take Indian history and culture to the world and promote the Indian philosophy of **Vasudhaiva Kutumbakam.**

Earlier this year, the Hon'ble Prime Minister Shri Narendra Modi, while speaking to the nation on its 78th Independence Day celebrations, emphasised that India must leverage its rich ancient legacy and literature to develop and design games Made in India. He added that Indian professionals must lead the global gaming market, not just in playing, but also in developing and launching games to make their impact felt worldwide.[1]

1. Prime Minister's Office (2024), Prime Minister Shri Narendra Modi Sets Ambitious Vision for India's Future in 78th Independence Day Address

This research report is developed by PwC in consultation with industry players and experts:

- shares insights on the evolving global as well as the Indian gaming market based on a combination of proprietary data and secondary research
- describes the ways in which gaming is helping the nation in its Viksit Bharat journey
- elaborates on the various challenges being encountered by gaming companies, collated through a series of interviews and consultations
- develops a set of actions to be executed collectively by gaming companies, gamers, platform providers, governments and other stakeholders to build a vibrant and responsible gaming business capable of helping build a Viksit Bharat.

We sincerely appreciate the support of 20+ gaming companies who offered their invaluable insights and perspectives on industry realities, along with the 1,100+ gamers whose feedback was essential in shaping our understanding of gaming culture. This report is a result of your enthusiasm and collaboration, for which we are deeply grateful. Thanks to the entire PwC team, including our senior partners, for their pivotal role in bringing this comprehensive and forward-thinking report to life. It has been a rewarding journey creating it, and we trust you will find the insights as compelling as we found the process.

“India’s gaming industry is poised for explosive growth, driven by tech advancements and youth demographics. Strategic investments can cement India’s global leadership, driving economic growth and jobs. India’s gaming market is on track to reach INR 66,000 crore by 2028, growing at a CAGR of 14.5%. Let’s harness this momentum to create a vibrant digital ecosystem, drive innovation and unlock 200,000+ jobs.”

Manpreet Singh Ahuja
Chief Digital Officer and
TMT Industry Leader

Table of contents

Executive summary

The Indian gaming landscape is experiencing a period of unprecedented growth, rapidly evolving into a dominant force in the global arena. It is fuelled by a potent combination of factors, including a burgeoning young population with high digital fluency, widespread access to affordable mobile data, and a thriving startup ecosystem.

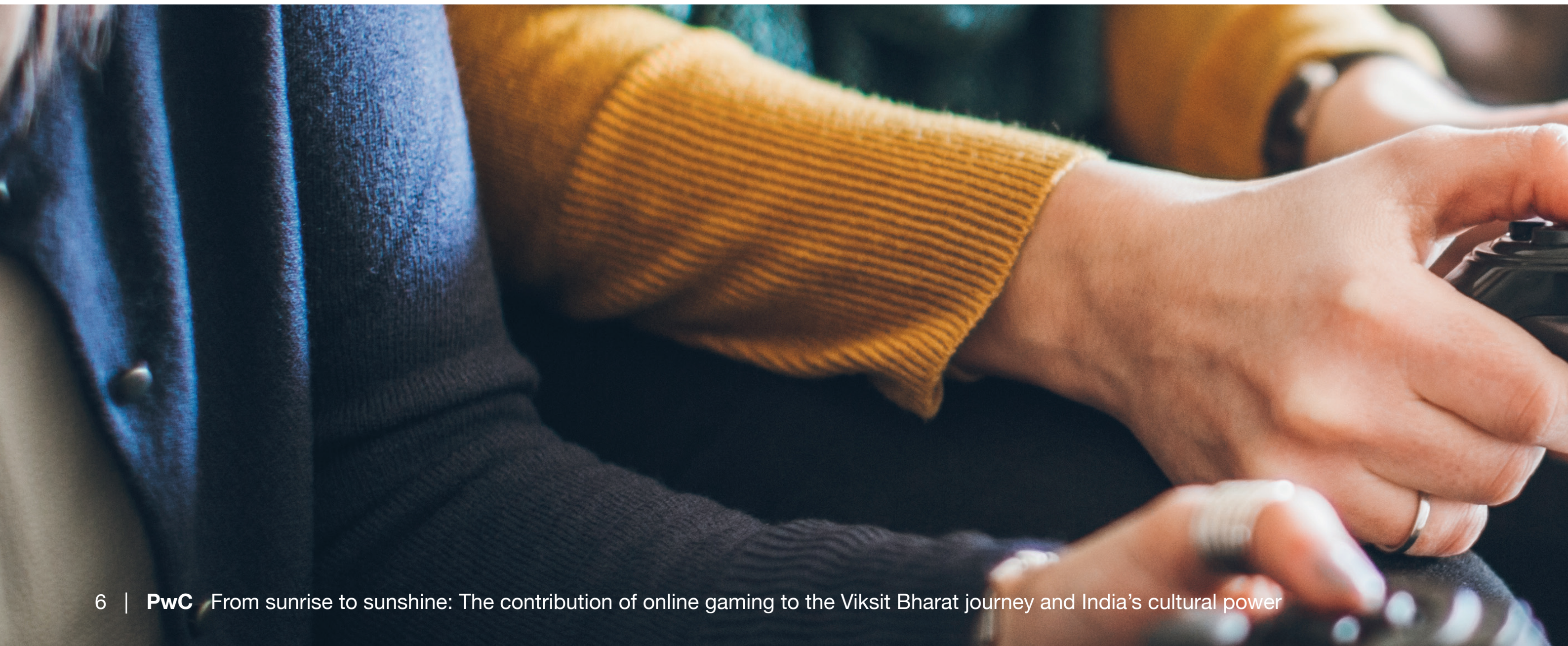
- The global gaming revenues grew from USD 219 billion in 2019 to USD 342 billion in 2023, and are estimated to grow at a compound annual growth rate (CAGR) of 8% to USD 503 billion by the end of 2028.[2]
- By 2028, the Asia Pacific region is expected to account for USD 181.8 billion in gaming revenues, or 54.4% of the global gaming revenue.[3]
- The total size of the Indian online gaming market was INR 33,000 crore in 2023. By the end of 2028, the Indian online gaming market is estimated to reach INR 66,000 crore, growing at a CAGR of 14.5% between 2023–2028.[4]
- The India real money gaming (RMG) market accounted for a staggering INR 16,500 crore in revenue during 2023.[5]
- The gaming industry's growth will have a transformative impact on the Indian economy, generating an additional 2–3 lakh direct and indirect jobs in the next few years.[6]

This remarkable growth in the RMG market is fuelled by the increasing popularity of skill-based games. Simultaneously, the social and casual gaming segment is experiencing exceptional growth, driven by the widespread adoption of app-based games, particularly among young adults and working professionals. This segment's projected CAGR of 21.6% underscores the immense potential of casual gaming experiences to capture the Indian market.[7]

Global investors see value in this sector and have invested a staggering USD 2.8 billion (INR 23,000 crore) in investment over the past five years.[8]

This influx of capital has resulted in a significant economic impact on the gaming sector, stimulating growth and generating new opportunities across multiple sectors. With its skilled talent pool and large domestic market, the Indian gaming industry stands at a pivotal juncture, with the opportunity to solidify its position as a global gaming powerhouse.

2. PwC's Global Entertainment and Media Outlook 2024-2028
3. PwC research and analysis
4. PwC's Global Entertainment and Media Outlook 2024-2028 and industry inputs
5. Estimates based on discussions with industry experts and PwC analysis
6. PwC estimates based on discussions with industry experts
7. Estimates based on discussions with industry experts and PwC analysis
8. Invest India (2024), Gaming



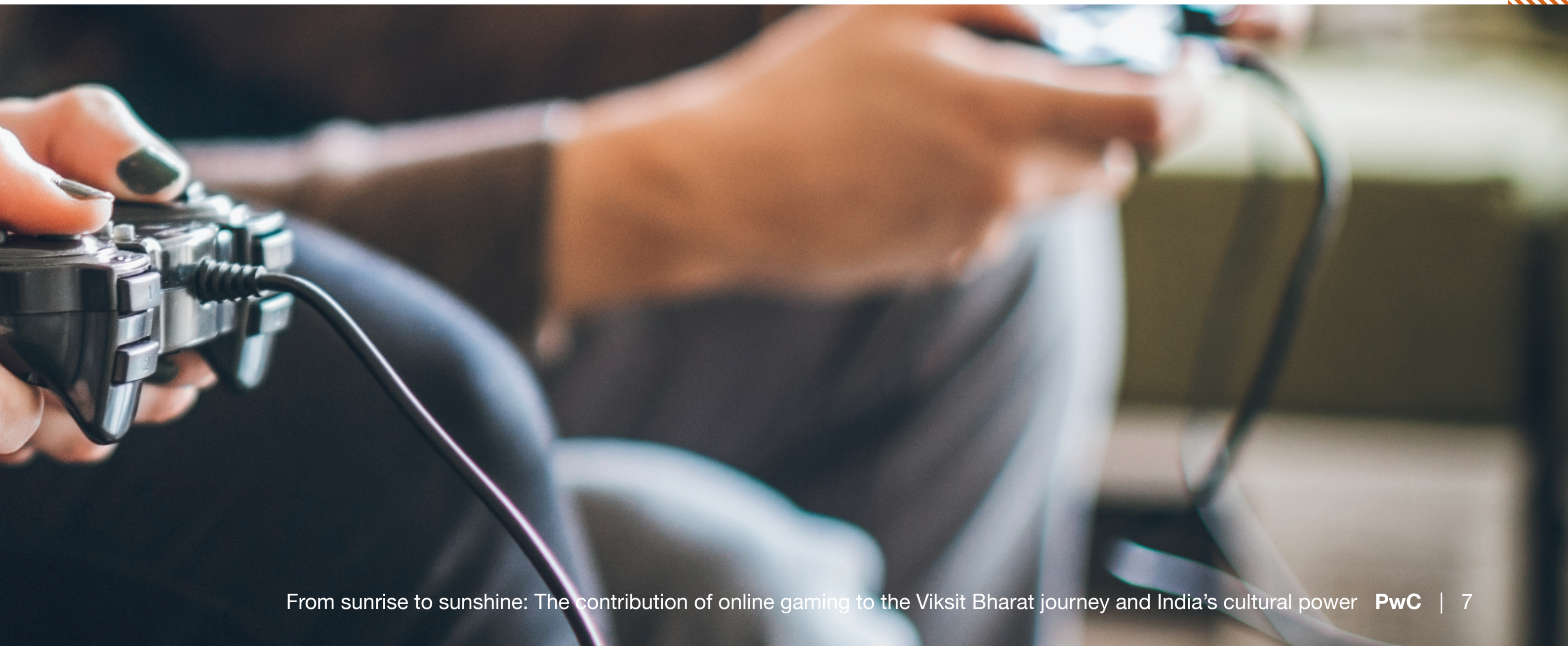
To achieve this, industry stakeholders must focus on the following key areas:

1. develop promising Indian intellectual properties (IPs) that appeal to global audiences
2. enhance user experience and achieve innovation by integrating cutting-edge technologies such as blockchain, artificial intelligence (AI) and cloud gaming
3. develop and promote subscription-based models like gaming-as-a-service (GaaS)
4. achieve responsible gaming practices through use of AI-driven solutions and ethical guidelines
5. reflect India's rich cultural heritage in game design and nurture a skilled workforce through specialised education and training programmes
6. lead the way in co-regulatory frameworks along with the government through voluntary codes of ethics, which will be crucial for long-term success.

Government and regulatory bodies need to create a stable environment for the growth of the Indian gaming industry by focusing on:

1. setting up a two-tiered regulatory system for online gaming which is a combination of self-regulation body and a dedicated entity to oversee the gaming ecosystem
2. encompassing player protection and platform accountability in line with a comprehensive code of ethics and due diligence
3. addressing the issue of retrospective GST demands on legitimate gaming company operators and providing regulatory clarity
4. providing public investments to support the growth of the gaming sector in India, with a focus on skills development, R&D and infrastructure.

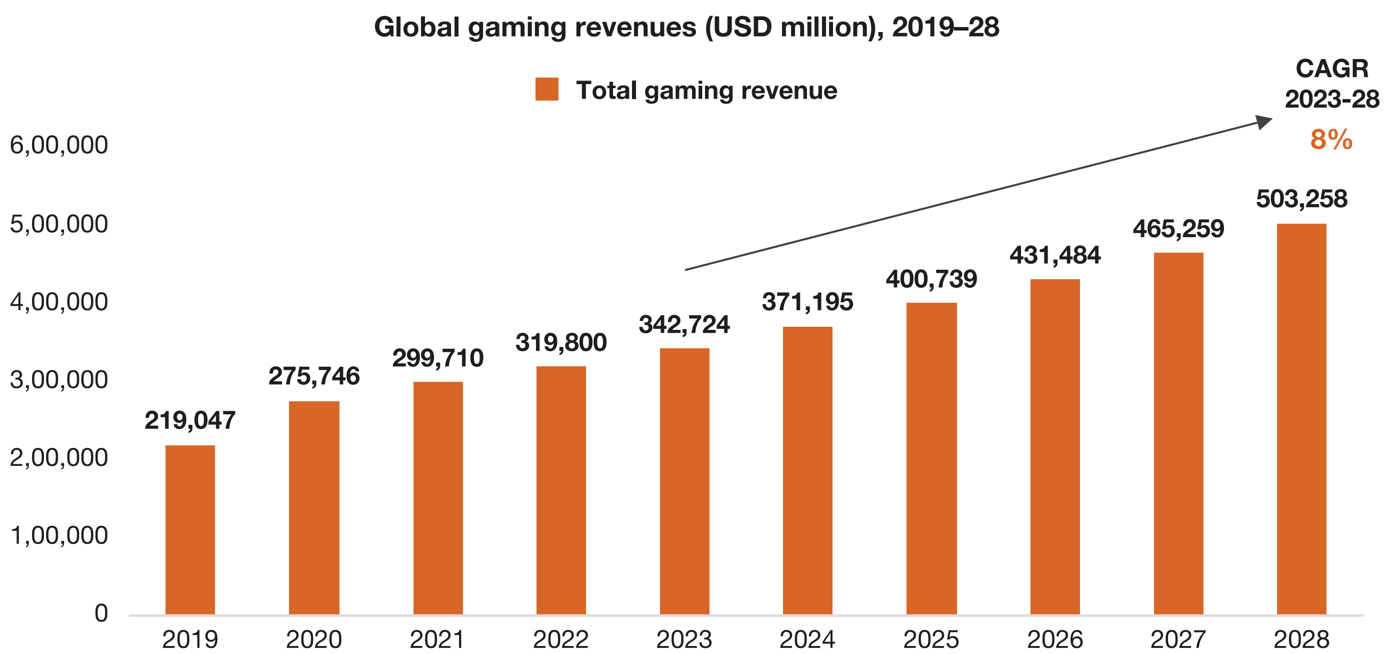
The Indian gaming industry is on the cusp of a transformative era. By embracing innovation, nurturing homegrown talent, promoting responsible gaming and capitalising on strategic opportunities, India is poised to establish itself as a global powerhouse in the area of online gaming. The time to act is now.



01 The global gaming market: Present and near future

The global gaming revenues grew from USD 219 billion in 2019 to USD 342 billion in 2023 and are estimated to grow at a compounded annual growth rate (CAGR) of 8% to exceed USD 503 billion by the end of 2028 (see Figure 1).

Figure 1: Global gaming revenues



Source: PwC's Global Entertainment and Media Outlook 2024-2028

The rapid expansion of revenues during 2019 to 2022 can be largely attributed to the rapid pickup experienced by different forms of online games during the COVID-19 pandemic. Millions latched onto these platforms to escape the boredom and isolation of COVID-19 lockdowns and then continued to engage and entertain themselves with these games.

However, in 2023, the global gaming market saw consolidation with budgets being tightened, investments reduced, sponsorships being pulled off and layoffs enacted across game developers and publishers. There were an estimated 10,000 redundancies in the games industry in 2023. Numerous factors were at play. Companies were looking to reduce their headcounts after hiring rapidly in the midst of the pandemic and were focusing on delivering value from existing intellectual property after a period of high spend on content and mergers and acquisitions.

Tech revolution shaping the future of global gaming

For the global gaming market, the period of 2024–2028 is expected to be a period of growth largely driven by innovations in animation, visual effects (VFX) and artificial intelligence (AI).

Animation and VFX technologies are vital to making a gaming experience immersive and engaging.

One is now witnessing animation and VFX studios combining the powers of distributed ledger technology, immersive technologies (comprising augmented reality, virtual reality and mixed reality) and generative AI (GenAI) to improve their workflows and capabilities, leading to higher quality and more efficient production processes. GenAI applications are also seen to be making their way into quickening the pace of game design and development in select studios.

Web 3.0 technologies too will significantly reshape the gaming industry by incorporating cutting-edge elements such as blockchain which will offer numerous benefits to developers and players. They will be able to monetise their gaming activities by trading in-game items on decentralised marketplaces supported by blockchain technology.

Traditionally, gaming players invested countless hours in games, collecting items that held no real-world significance. With Web 3.0 technologies and blockchain, in-game characters, assets, and game points/earnings will start carrying real-world value.

Impact of GenAI on gaming

GenAI can power several gaming use cases, particularly in the video gaming space.[9] For example, in the development segment, GenAI can be used to develop frameworks to build a project management office (PMO) for game development.

Furthermore, GenAI-driven solutions can help simulate gameplay and detect gameplay bugs. GenAI can be used for content moderation, and other trust and safety services. GenAI can also help in dynamically placing advertisements, making them more contextualised.

9. This section has been quoted and developed from PwC (2024), Transforming the video game industry with GenAI

Global e-sports market

The global e-sports market has faced disruption over the past few years. It had long exhibited substantially faster growth than the larger video games market, but the pandemic caused significant upheaval, as revenue from live events plummeted and other areas of the market exhibited marked slowdowns. Growth approached pre-pandemic rates in 2022, but 2023 marked the end of e-sports' rapid growth phase, as broader economic and geopolitical challenges built a climate of uncertainty around the future of this industry. It is expected that going forward, e-sports revenue will enter a period of steady, but slowing, growth across different segments.

The rise of Asia Pacific (APAC) in the global gaming market

In 2023, gaming in the APAC region generated revenues to the tune of nearly 48% of the segment's global total. According to PwC's research, by 2028, the region is expected to account for USD 181.8 billion in gaming revenues, or 54.4% of the global gaming revenue. China's gaming revenues are expected to surpass those of the US as early as end-2024.

The arrival of smartphones, a burgeoning young demography across many geographies, and cost-effective mobile internet has reshaped the gaming scene in Asia. The APAC region has experienced significant growth in internet connectivity levels in recent years. The number of people in the region subscribing to mobile internet services has more than doubled in the last decade to over 1.4 billion.[10] The region has quickly embraced mobile gaming with incredible enthusiasm, resulting in the rise of mobile-first games that achieved global acclaim.

10. PwC's Global Entertainment and Media Outlook report 2024-2028

02 The rise of India’s online gaming market and key factors shaping its growth

Part of a larger evolving animation, VFX, gaming, comics and extended reality (AVGC-XR) ecosystem—India’s online gaming market has matured rapidly during the last half a decade.

> “The future of the gaming industry depends on how games are being developed and played. Moreover, from a business and user standpoint, it’s imperative to look at how games are monetised and distributed. This is where emerging technologies like spatial reality (AR and VR), blockchain and AI are revolutionising the industry by allowing gaming companies to offer more immersive, personalised and secure experiences, ultimately driving growth and expanding their reach in competitive markets.”

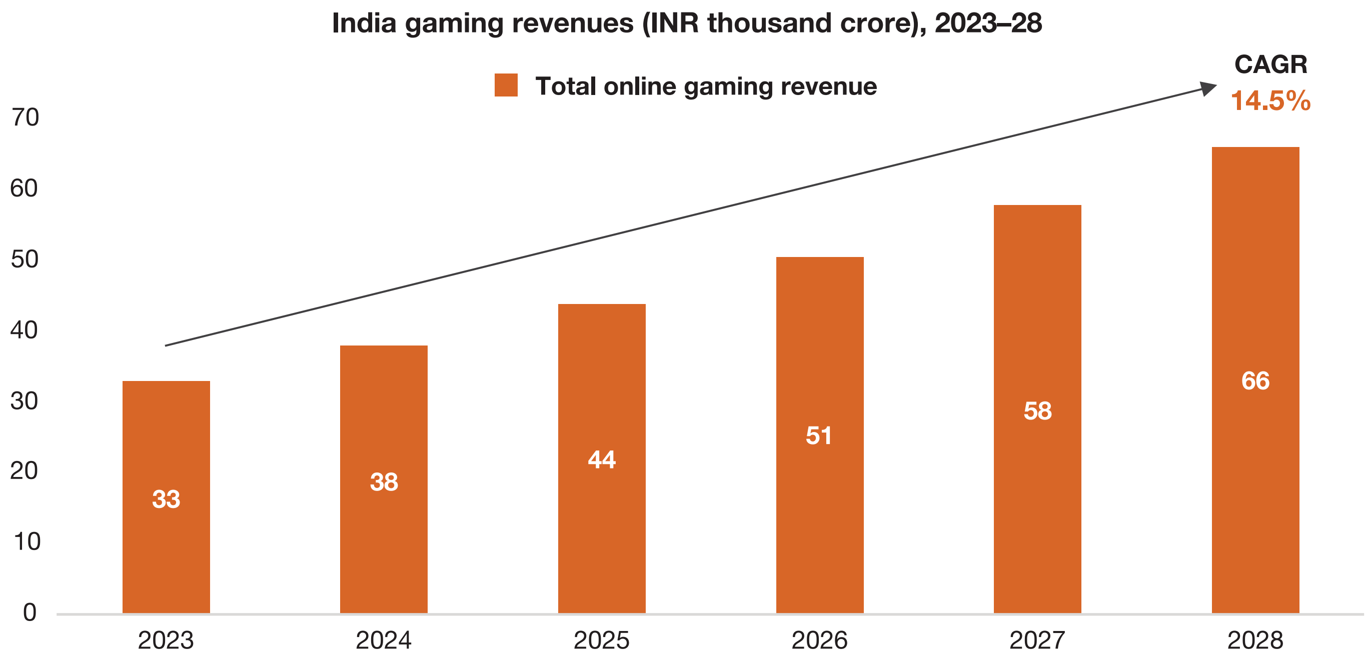
Rajesh Dhuddu
Partner, Emerging Technologies

In 2019, the AVGC sector in India was valued at INR 19,150 crore, or roughly 0.7% of the global market.[11] It is widely expected that market dynamics would have propelled the sector's growth to 2.2 times in 2023, making up roughly 1.5% of the worldwide AVGC sector.[12]

The RMG and social/casual gaming industry in India

Home to more than 45 crore gamers,[13] including 0.18 crore e-sports players, the total size of the Indian online gaming market was INR 33,000 crore in 2023. By the end of 2028, the Indian online gaming is estimated to reach INR 66,000 crore, growing at a CAGR of 14.5% between 2023–2028 (see Figure 2).

Figure 2: Indian online gaming revenues



Source: PwC's Global Entertainment and Media Outlook 2024-2028 and industry inputs

It is widely expected that number of online gamers in India—growing at a CAGR of 10% per annum—would exceed those in China in 2028 with a base of over 72 crore gamers.[14]

The India RMG market accounted for a staggering INR 16,500 crore in revenue during 2023. This market is expected to grow at a reduced cumulative CAGR of 10% from 2024 to 2028 (from an earlier CAGR of 25% the for last five years) due to the increased GST impact, reaching INR 26,500 crore in 2028.[15]

Real money gaming (RMG) revenue includes revenue generated via online games wherein a user makes a deposit, in cash or kind, with the expectation of monetary rewards on that deposit.

Social/casual gaming revenue includes revenue generated via online games that feature in-app advertising, in-app purchases (e.g. purchase of virtual items within the game) or through subscription services.

11. Ministry of Information and Broadcasting (2022), Realising AVGC-XR Potential in India
12. Mini Tejasvi (2024), 'India's AVGC-XR sector to become $26-bn industry by 2030', The Hindu
13. Invest India (2024), Gaming
14. Estimates based on discussions with industry experts and PwC analysis
15. Estimates based on discussions with industry experts and PwC analysis

As per industry estimates, the social/casual gaming market is worth around INR 10,000 crore. As per PwC's Global Entertainment and Media Outlook 2024-28, the revenues in 2023 were INR 13,800 crore and are estimated to reach INR 36,600 crore in 2028, expanding at a CAGR of 21.6%.[16] A majority of the revenue within the social/casual gaming market is generated by app-based social and casual gaming, which stood at INR 9,800 crore in 2023 as per PwC's Global Entertainment and Media Outlook 2024-28. Growing at a CAGR of 14.5%, app-based social and casual gaming revenue is forecasted to nearly double in the next five years, touching INR 19,300 crore in 2028.[17]

Key factors shaping growth of online gaming in India

Several factors are converging together to shape the growth of online gaming in India.

With nearly 600 million people below the age of 35 (during 2023–2024),[18] India is the youngest nation in the world, making it a hotbed of young gamers and vibrant talent pools that can design and build new games.

With one of the cheapest internet mobile data prices in the world, Indian smartphone users, exceeding 650 million,[19] have developed a robust culture of data consumption for the purposes of entertainment and playing games. In 2023, an average Indian citizen was consuming 24.1 GB of data per month[20]—an increase of 24% over 2022.[21]

The growing number of startups within the AVGC ecosystem provides the much-needed indigenous support network to entrepreneurial ventures in gaming and e-sports to test their ideas with agility and launch them at scale. On the back of such ecosystems, Indian gaming entities have raised an estimated USD 2.8 billion from domestic and global investors during the last five years.[22]

Recognising the growth-compact between the AVGC and gaming industries, the Union Cabinet of the Government of India has green-lighted the setting up of the National Centre of Excellence (NCoE) in Mumbai for AVGC-XR in the state of Maharashtra.[23]

This Centre of Excellence will offer specialised training-cum-learning programmes in cutting-edge AVGC-XR technologies. Moreover, it will also foster research and development in these areas. This will be done through the setting up of inter-disciplinary teams comprising experts from various fields such as computer science, engineering, design and art.

This institution will focus on creation of India's gaming intellectual property (IP) built with content developed leveraging the nation's cultural heritage. In parallel, it will also function as an incubation centre and nurture startups and early stage companies in the AVGC-XR domain by offering resources.

Further, the Central Government plans to establish Regional Centres of Excellence (RCoEs) in collaboration with state governments. These centres will partner with studios and prestigious universities to deliver high-quality AVGC education. Centres of excellence and creative entrepreneurship for AVGC, focusing on education and skill development, can now be developed on a public-private partnership (PPP) model across the country, involving international, national and state-level stakeholders in the sector.

State governments have also been playing their part in the growth of the AVGC industry.

Among the states, **Telangana** was one of the first ones to articulate a policy linked to the AVGC industry. The Innovation in Animation, Multimedia, Gaming, and Entertainment (IMAGE) Policy, 2016, announced the setting up of the Telangana Animation and Gaming (IMAGE) City in RR District, Hyderabad to provide an ideal environment for the AVGC industry.[24]

The state of **Karnataka** has also recently announced the AVGC-XR Policy 3.0 (2025-2029) designed to prompt growth, innovation and sustainability within the AVGC ecosystem. For example, the policy facilitates skill development and job creation by making employees eligible for a course fee reimbursement of INR 3,000 per month for the first year of employment, capped at 50% of INR 7.5 lakhs for course fees and INR 12 lakh for PF reimbursement during the policy period.

16. Estimates based on discussions with industry experts and PwC analysis
17. Estimates based on discussions with industry experts and PwC analysis
18. Government of India (2024), Economic Survey of India
19. Free Press Journal (2024), Rural Areas Will Be Growth Of Internet, Smartphone Penetration In India: IAMAI
20. Nokia (2024), Nokia MBiT Report 2024
21. Nokia (2024), Nokia MBiT Report 2024
22. Invest India (2024), Gaming
23. Amrita Nayak Dutta (2024), Cabinet clears setting up of National Centre of Excellence in Mumbai for AVGC
24. Government of Telangana (2016), IMAGE Policy, 2016

This policy also helps companies build AVGC infrastructure by providing them with a capital subsidy for purchasing IT equipment and rental benefits, capped at INR 20 lakh for IT equipment and INR 5 lakh for rental equipment during the policy period.[25]

Online gaming has emerged as sunrise industries of India. In the following chapter, we analyse how they are helping transform India into a Viksit Bharat.

How emerging technologies can transform value chain of gaming companies

As shared by industry players, augmented reality (AR) is captivating Indian gamers, especially in urban areas and among younger demographics, by blurring the lines between the real and digital. AR games seamlessly weave digital elements into the player's physical environment, creating interactive experiences that resonate with local culture and themes. This personalized approach enhances engagement and fosters a strong connection with Indian players.

Virtual reality (VR) is steadily gaining momentum as affordable VR headsets become increasingly accessible. VR offers a truly immersive gaming experience, transporting players into entirely virtual worlds.

By incorporating verifiable and reusable KYC built on blockchain technology, gaming companies can streamline the verification process while enhancing security and user trust. Blockchain enables the creation of tamper-proof, verifiable digital identities that can be reused across multiple platforms, reducing the need for repeated verifications and lowering operational costs. This approach not only ensures compliance with regulatory requirements but also provides a seamless and secure user experience, fostering greater transparency and reliability in the online gaming industry.

1 Game development and design

Collaborative game design through Web 3.0 platforms such as decentralised autonomous organisations (DAOs)

Personalised gaming experiences like dynamic storyline based on actions of players with GenAI

2 Publishing

Smart contracts on blockchain to manage IP, licensing rights and royalties transparently

Raise funds by offering early access tokens to investors, granting special in-game privileges and returns

3 Distribution and platforms

Distribute games via Web 3.0 platforms, bypassing traditional app stores and associated costs

Self-sovereign digital identities to maintain control over their data and gaming history across platforms

4 Monetisation and revenue generation

Complete tasks or missions within the game to earn digital assets which can be traded or sold in secondary markets

Brands can buy ad space within the metaverse, offering immersive, non-intrusive marketing experiences

5 Community and user engagement

Token economics that give access to exclusive in-game content, rewards and early updates, fostering community loyalty

Host concerts, gaming tournaments or fan meetups to deliver immersive experiences with AR/VR/MR

6 Support and infrastructure

Automate customer support processes like refunds, licence renewals, or in-game content ownership disputes using smart contracts

AI-driven chatbots and virtual assistants to provide personalised support, addressing issues faced by players in real-time.

25. Government of Karnataka (2024), AVGC-XR 2024-29 Policy

03 Gaming as driver of Viksit Bharat

Viksit Bharat is the vision of the Government under the leadership of Hon'ble Prime Minister Shri Narendra Modi to transform the nation into a developed entity by its 100th independence in 2047 on the back of demographic dividend, digital inclusion and sustainable growth.

Gaming is a driver of Viksit Bharat. Powered by digital technologies, gaming is creating cutting-edge employment, alternative career paths, as well as wealth creation opportunities for the nation's youth while contributing handsomely to the Indian exchequer. More importantly, gaming is becoming a vehicle for India to take its culture and ethos to the world, thereby becoming a tool for growing the nation's soft power and IP.

Gaming: Catalysing jobs, skills and career paths

Employment-intensive growth is one of the core principles of Viksit Bharat. Moreover, the employment being generated must be skill-driven and remunerative. The jobs generated within the gaming industry satisfy these conditions.

Cutting-edge job opportunities

By FY 2024, the gaming sector is expected to generate approximately 2 lakh jobs through direct and indirect opportunities created within the sector.[26]

According to PwC estimates,[27] this industry has the potential to create an additional 2—3 lakh—direct and indirect—jobs in the next few years.

The highly distinctive skilled profiles that typically go into shaping nearly 85% of the value generation in gaming are: game producers, game developers, game programmers, level designers, game mathematicians (machine learning/data analytics experts), game artists, 2D/3D artists, animators, sound designers/ engineers and quality assurance testers, Web 3.0 developers, Game-AI and Game-Gen AI specialists. The other profiles are in the realm of software engineering, general administration, finance, human resources and marketing.

26. Estimates based on discussions with industry experts
27. PwC estimates based on discussions with industry experts

Besides these opportunities, there are several avenues that are open for ecosystem partners to build income streams with gaming and e-sports. For example: smaller studios and freelancers can design and sell consumable and non-consumables to help gaming companies secure better engagement of players on their respective gaming applications. There is also scope to organise e-sports tournaments, train e-sports players, provide mental and physical healthcare services to gamers and e-sports players, amongst others.

Future-ready skilling

Gaming leads to better spatial awareness and faster cognitive processing, helps overcome our biases, and builds our decision-making capabilities. Four skills a gaming and e-sports player acquires subconsciously are as follows:

1. **Critical thinking:** Gaming and e-sports encourage players to think critically and evaluate different options and outcomes. Players are required to assess and analyse a situation, evaluate the resources at hand, and arrive at informed decisions in a time-bound manner. Games often present players with challenging situations requiring them to undertake strategic thinking and mindful decision making—which are life skills they can use across any situations they face while completing their day-to-day chores. Most importantly, such skills are built within a player without even realising that they are being acquired, making such an experience more memorable rather than taxing from a learning standpoint.
2. **Problem-solving mindset:** Furthermore, gaming and e-sports promote a growth-oriented problem-solving mindset. Players learn to overcome failures and setbacks, and this happens not through teachers but with peer-to-peer learning which does not bruise egos. This resilience and determination to overcome challenges are transferable skills which can then be applied by players to real-life problems.
3. **Creativity:** Sandbox-style games provide players the freedom to create their own environments and experiences. Such open-ended gameplay encourages experimentation and innovation, fostering creativity and imagination. Players can use their imagination and artistic skills to design and develop their own virtual worlds. This creative outlet allows participants to think outside the box, explore possibilities and construct new worlds of their own.
4. **Storytelling:** Gaming without a narrative can be very boring. Storytelling is another skill that gets developed with gaming as players learn how to build engaging narratives while playing a game.

Besides the above skills, gaming—with its combinatorial tech approach—can become a platform to skill workers across key Indian industries relevant to building an inclusive economy—one of the key pillars of Viksit Bharat.

Alternative career paths

We have identified four new jobs that are quite specific to gaming and e-sports besides the traditional ones that exist across all industries in the fields of entertainment, finance, marketing and sales, and also exist in these domains.

1. **Professional player:** Professional players are highly skilled individuals who represent e-sports or gaming teams or themselves individually in top tournaments. While this is one of the most aspiring gaming and e-sports jobs, there are few who qualify. This is because professional players not only have the skills to play the game or the e-sport, but they are also equipped with social skills to develop a community around them.

   Professional e-sports playing has a promising future. E-sports made its debut as a full-fledged medal event at the Hangzhou Asian Games, after being a 'demonstration event' at the 2018 Asian Games. Tirth Mehta won a bronze medal in Hearthstone at the 2018 event. The 2022 Asian Games featured seven titles, including League of Legends, Arena of Valor Asian Games Version, Peace Elite Asian Games Version, Dota 2, Dream Three Kingdoms 2, Street Fighter V: Champion Edition and EA SPORTS FC ONLINE.[28] India participated in four out of the seven titles.

   Professional gamers competing at the highest tiers of e-sports have substantial incomes. Elite players associated with registered e-sports teams—as per industry estimates—are reported to earn as high as INR 30–35 lakh per year. A broader segment of serious gamers, those dedicating over 12 hours per week to gaming, have the potential to earn between INR 6–12 lakh annually.

   Earnings however depend on specific game and e-sports titles. The financial prospects for professional gamers in India vary widely, influenced by factors such as skill level, market demand and the evolving nature of the gaming industry.

2. **Games and e-sports developers:** Game developers contribute to game development elements, including visuals, AI, user interface and game logic. Using the game designers' designs, ideas and storyboards, they make a game to come to life. Industry experts identify four different roles for game developers:

   a. one who develops games/e-sports for a single platform as an employee

   b. one who develops games/e-sports for the platform as an outsider and gives them partial ownership

   c. one who develops and publishes one's own game

   d. one who develops the game and then sells it to the publisher.

3. **E-sports host:** Such hosts offer live commentary during an e-sports tournament. They conduct interviews with the top e-sports companies, professional players as well as experts.

4. **E-sports team owner/manager:** Like live sports, team managers for e-sports are responsible for everything happening within a team. They look out for the best players, build their contracts, on-board and guide them, and ensure that they are well trained and fit. They deal with brands, developing partnerships and strategies for the tournaments.

28. Sunaadh Sagar (2023), Asian Games: India aims high as eSports debuts as medal event in Hangzhou, ESPN (the names of e-sports and participants mentioned are all sourced from this same source)

Gaming: Generating wealth for entrepreneurs and the nation

Rewarding spirit of entrepreneurship

Beginning FY21, the nation witnessed the maturing of numerous gaming start-ups, the rise of three gaming unicorns—more than half a dozen strategic exits exceeding the valuation of USD 750 million and a successful IPO.[29] Many such opportunities will take shape as the 1,700 plus-strong gaming startup community expands rapidly over the next few years. As noted by the Economic Survey 2024,[30] online gaming was one of the top contributors to India's start-up ecosystem in 2023, accounting for 4% of new tech-based start-ups.

Moreover, new avenues for wealth creation continue to open up for the industry with its ability to attract new players and retain existing ones. For example, increased engagement by consumers and higher click-throughs when they are on gaming platforms have opened up an avenue for brand managers of consumer products and services companies to secure a higher return on investment (ROI) by advertising on gaming portals. This is expected to drive greater allocation of marketing budgets to the gaming segment in the coming years, further increasing its valuation and wealth creation potential. According to industry experts, mobile gaming advertisement revenue is therefore expected to grow at a healthy rate in excess of 20% for gaming companies, largely on the back of game ad formats such as opt-in reward ads, playable ads and personalised video ads.

A magnet for investment

During the pandemic lockdowns, the online gaming sector received a natural boost. This surge can be attributed to the heightened use and demand for virtual entertainment, as people sought new ways to connect and engage while confined to their homes. This led to significant growth in revenues of online gaming companies and also funding activity. Several significant deals occurred during this period, with four startups individually raising over USD 100 million each.

> "Gaming fosters creativity, critical thinking and technological proficiency. It's just not a form of entertainment, but a powerful tool for education, innovation and economic growth that can propel India towards a future of limitless possibilities and a truly Viksit Bharat."

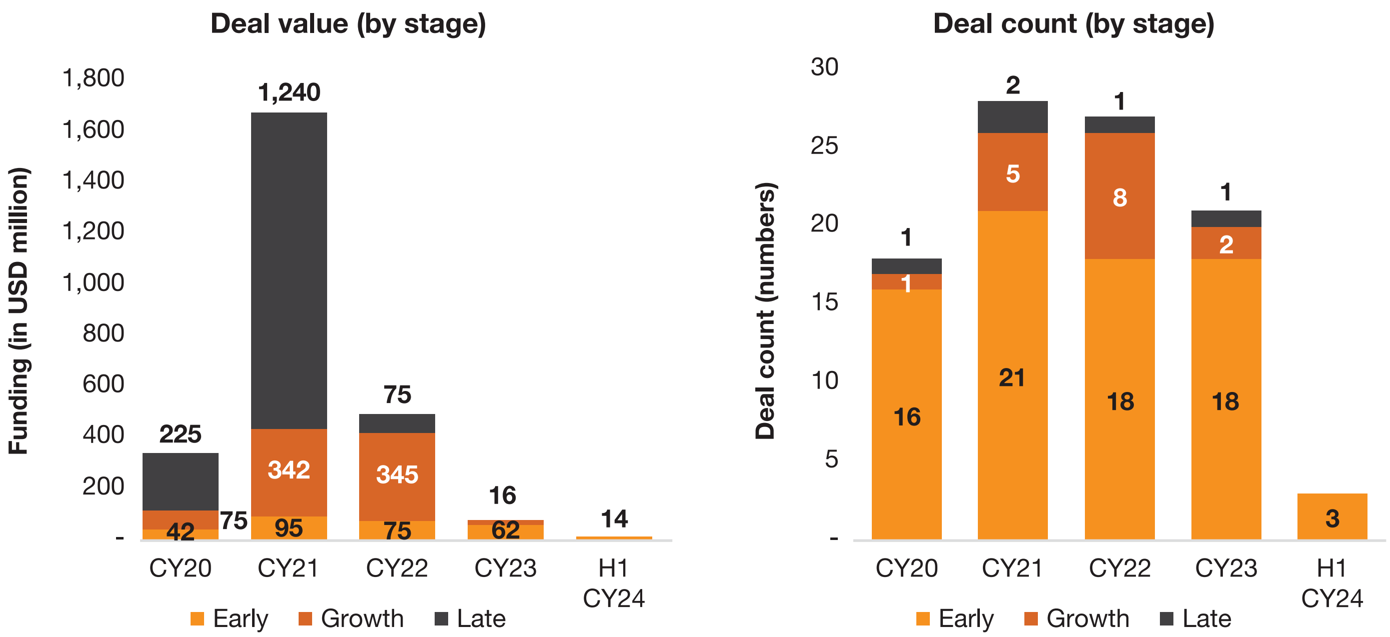
Raghav Narsalay
Partner and Lead
Research and
Insights Hub

29. Based on analyst reports and discussions with industry leaders

30. Government of India (2024), Economic Survey of India 2023-2024

Interestingly, 80% of the deals in the last 2-3 years have happened in early stage (see Figure 3)—clearly signifying the interest placed by the investing community to invest early on, due to the trust they have in the business acumen of the players and the growth of the industry as a whole. For early-stage deals, the average ticket size per deal was USD 4 million per deal. On the other hand, for growth stage deals, the average ticket size per deal ranged from USD 57 million per deal in H1 2022 to USD 16 million per deal in H1 2023.[31]

Figure 3: Deal value and deal counts in the Indian online gaming industry



Source: PwC analysis based on Venture Intelligence data (CY-indicates calendar year)

Boosting the national exchequer

Indian gaming industry has been a salient contributor to the nation's exchequer.

While it had contributed an estimated INR 7,200 crore to the nation's GST kitty of the nation during the period FY20–23,[32] since the imposition of the 28% GST rate, revenues from the online gaming sector have quadrupled, with GST collections now averaging INR 1,100–1,300 crore per month. The Finance Minister of India recently shared that the GST revenues from online gaming had increased 412%, reaching INR 6,909 crore from October 2023 to March 2024, compared to INR 1,349 crore in the previous six months.[33]

The sector also generated over INR 1,080 crore in tax deducted at source (TDS) in FY 2023–24 until February 2024.[34]

Calculations based on industry inputs reveal that during the period FY 2025-2029, the RMG segment of online gaming, alone will cumulatively contribute GST revenues to the tune of INR 80,000–85,000 crore and TDS cumulatively amounting to INR 6,500–7,000 crore.

31. For this analysis, Early stage funding includes pre-series/Series A rounds with total funding between USD 5–10 million; growth stage funding includes Series B rounds with funding between USD 10–50 million; and late stage funding includes Series C and above rounds with funding exceeding USD 50 million.
32. PwC estimates based on data collated from public sources
33. Economic Times (2024), GST on online gaming resulted in 412% more revenue in six months, netted ₹6,909 crore, says Finance Minister Sitharaman
34. Business Standard (2024), I-T dept collects over Rs 1,260 cr in TDS from online gaming, crypto trade

Gaming: India's soft power on the global stage

Ancient games and sports were not merely a pastime but a vital part of Indian culture. They served as a platform for social interaction and the fostering of community spirit, reflecting local stories, myths and folklore. Through these activities, cultural knowledge and practices were transmitted to participants playing these games and sports. Over the centuries, these participants included traders, monks, scholars, travellers, armies and kings. These individuals carried many of these stories and practices with them, turning games and sports into ambassadors of our culture and IP. One of the classic examples of this is **Moksha Patam**—a game that originated in India and became popular in the UK as 'snakes and ladders' in the late nineteenth century.

Besides, playing these games and sports involved physical and mental alacrity, mindfulness and skills relevant to playing that game—thereby helping overall development of participants.

Like yoga, the growing gaming industry is presented with a unique opportunity to be the new drivers of India's soft power on the global stage. With more than 40% of the world's population being gamers, gaming is a global passion. Akin to **Vasudhaiva Kutumbakam**—the India gaming industry has already started executing on the phrase **Vasudhaiva Kridanam**—the concept that all gamers are one family and that they need to appreciate and respect the culture and practices of each other be responsible towards one another.

Cultural immersion with gaming

Gaming can immerse millions of citizen-gamers from different countries into developing a better understanding of Indian culture, mythology and practices. Imagine building a game—combining the power of technologies such as AR, VR and AI—that can immerse a player into visiting all the sacred places along the Buddhist circuit—meditate, learn scriptures—gamify and pass tests to earn reward points to be redeemed for stickers, mementos and non-fungible tokens (NFTS). This game can become a platform wherein a number of believers and followers of Buddhism can cross virtual paths, and collectively discuss ideas towards spreading Buddha's message of peace.

The journey in this direction has already begun. The **Shri Ram Mandir Game** released in January 2024 has crossed over a crore of downloads (as of 15 September 2024). Another game **Kurukshetra: Ascension** has crossed over half a million downloads (as of 15 September 2024) has already started gaining traction within major gaming nations such as Indonesia and Thailand, which have historic cultural ties with India. As reported, the game **Unsung Empires: The Cholas** while finding maximum pickup in India has also triggered interest in geographies such as the USA and nations such as Brazil and Mexico too[35]—which have been ruled by civilisations such as the Incas.

Gaming as a driver of human bonding

Cultural bonding can be one of the ways to prevent conflict and promote peace. The growing market for games appealing to cultural sensibilities has the potential to draw more developers across nations to collectively explore themes rooted in their individual mythologies and religions. Supported by state-of-the-art technologies, these developers can build games that promote inter-faith dialogue and discussions through gamification, helping people understand how their religions and beliefs promote living together in peace and harmony.

The audience and interest towards physically played sports in real-life settings can be augmented by building their e-sports-versions and holding e-sports-competitions in parallel with the real ones during seasons.

Our interviews with experts revealed that audiences are increasingly seeing sports—the ones played on ground as well as those played virtually—as a part of the larger hip-hop, pop and other music as well as cinema cultures. In short, lines between sports stars and movie stars, between streamers and digital influencers, and between TV shows and games are fast blurring. Taking advantage of such a phenomenon, one can explore if globally acclaimed Indian movie and music stars can be leveraged to be our cultural ambassadors through major e-sports events.

35. Dia Rekhi (2024), Sacred Games: How Indian mythology is taking over gaming consoles, Economic Times

Gaming: Growing India's IP quotient

Strong IP is a powerful way to boost revenue generation and global positioning within the global mobile game and e-sports arena.

Growing IP-based gaming

An example of this is a leading gaming and e-sports company which enjoys a very large percentage of the e-sports market share.

This gaming and e-sports giant has been organically growing its IPs as well as expanding its IP portfolio through mergers and acquisitions to broaden its reach and influence in the industry. Currently, the company boasts over 50 IPs.

One of its standout IPs is regarded by commentators as India's biggest e-sports tournament. In 2022, it began broadcasting the BGMI series. Another successful IP 'Playground' has garnered over 25 million unique viewers across various platforms.

This fast-growing gaming and e-sports organisation is also focusing on mobile-first markets external to India. The company is therefore establishing its presence and taking its IPs to African markets such as Nigeria, Kenya and South Africa along with markets such as Turkey, Central Asia and South Asia.

While Indian gamers currently enjoy games primarily developed internationally, there's a growing demand and a significant opportunity for Indian developers to create homegrown games that resonate with Indian culture and values, creating unique IP creation opportunities.

Building business resiliency with IPs

IPs also help drive loyalty and help gaming brands survive shocks. Our discussions with experts reveal that a majority of gamers in India and those of Indian origin but staying on foreign soil show a greater level of proclivity to play games based on Indian IP and even go the distance to support to Indian IPs despite costs involved. For example, on the back of distinct and likeable IPs, one of the three gaming unicorns onboarded nearly 55 million new users on its platform in 2023 despite facing regulatory challenges and a new tax regime.

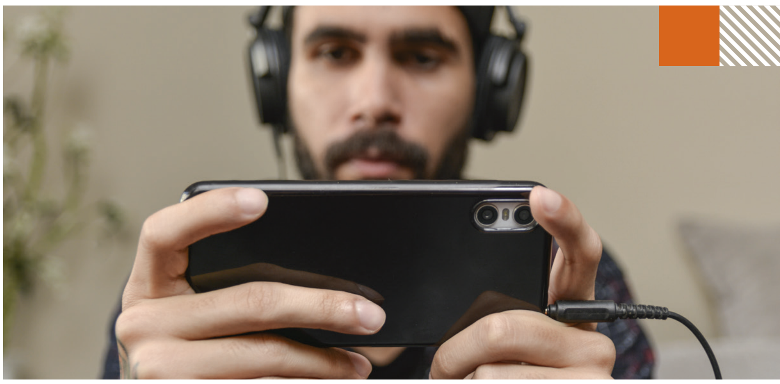
Building IPs thorough collaboration within e-sports

In the context of e-sports—a nascent yet growing market in India—several promising collaborations are being forged to share costs towards development of the new IP-driven experiences that can take India's e-sports IP to the world. Such collaborations will help drive rich and engaging storytelling within the e-sports domain, catering to the ever-evolving interests of the gaming community—a vital but missing aspect of e-sports-IP till date—according to experts.

A large telecom operator and an internationally recognised e-sports organisation based in Paris have entered into a long-term partnership to strengthen India's e-sports ecosystem. Besides hosting gaming events and driving content partnerships, the collaboration would be driving the 'development of original, large-scale experiences'.[36]

Another such collaboration is between a large gaming and e-sports set-up and a commercial sports giant. This strategic partnership capitalising on the know-how and IPs of the gaming and e-sports organisation and commercial expertise of the sports entity, will 'monetise and market its gaming, e-sports and cultural intellectual properties (IPs)'[37] both on Indian and foreign soil.

The strategic opportunities that gaming and e-sports present our nation, and the youth are tremendous. The good news is that we have started lapping these up. In the following chapter, we review the challenges coming in the way of making the most of these opportunities and share strategies to address the same in the last chapter of this report.



36. Financial Express (2024), Vi partners with Team Vitality to forge an esports partnership in India
37. Financial Express (2024), NODWIN Gaming partners with JSW Sports to elevate Indian esports

The urban working professional as a gamer

We connected with 1,134 urban consumers across major metros through a survey to understand what makes them game, the gaming genres they play, the number of hours they indulge in gaming, the impact of gaming on their wellbeing, amongst other things. We also checked their interest around e-sports and awareness around recent tax changes pertaining to gaming.

Nearly 93% of our sample of working professionals was from the age group of 21–40 years.

Key findings of the survey: Gaming

01 | Gaming emotion

When asked about the three words that come to their mind when describing their emotions related to gaming, 'fun' (63%), 'excitement' (59%) and 'challenge' (56%) bubbled up from nearly a dozen options shared with them.

02 | Gaming genre preference

Given the above, it isn't surprising to see the respondents choosing genres such as 'action' (69%), 'sports and racing' (50%) and 'sandbox and open world' (31%).

03 | Game type

Consumers in our survey spend most of their time playing 'casual games' (39%) followed by 'AAA games' (35%) and 'mid-core games' (24%).

04 | Gaming sociology

Playing with friends and being part of a community are an essential gaming experience for 47% of consumers, whereas 46% enjoy multiplayer games but prefer a mix of solo play and community engagement.

05 | Game-driven wellbeing

A resounding 82% of consumers in our sample say that gaming helps them relax and disconnect from stress.

06 | Gaming indulgence

60% of respondents have a strict budget and time limits for gaming, ensuring it doesn't interfere with their financial and personal responsibilities. Further, 70% of respondents in our survey spend less than 10 hours a week playing video games.

07 | In-game purchases and payment models

70% percent of respondents say that they avoid spending money on games and stick to free-to-play or one-time purchase models.

08 | Gaming innovations

60% of respondents are excited about the potential of VR/AR to create more immersive gaming experiences, whereas 46% want to see better cross-platform gaming and integration between different devices.

09 | Bettering gaming experiences

63% of respondents want gaming companies to focus on 'enhanced graphics and performance' to make their future gaming experience better. In contrast, 46% want them to focus on 'immersive storytelling' and 39% would like to see better gameplay balance in future.

10 | Gaming security

While 41% of respondents rank security as the top priority and thoroughly research a platform's reputation before signing up, interestingly, 45% trust well-known brands but are cautious with lesser-known or new platforms.

04 Nine key challenges for the Indian gaming industry

As the Indian gaming industry rapidly expands, the government, ecosystem and the industry itself needs to be cognisant of the challenges that have the potential of hindering the gaming industry's long-term growth as a contributor to various aspects of a Viksit Bharat. If left unaddressed, such challenges can limit the potential of one of the fastest-growing gaming markets in the world.

Challenge 1: Regulatory fragmentation and uncertainty

The absence of a comprehensive national regulatory framework has left the online gaming sector exposed to significant uncertainty, which in turn is leading to a negative growth and investor outlook. Several states have attempted to impose blanket bans on all RMG activities without regard to India's well-established jurisprudence on games of skill. This has resulted in costly litigation, with many of these bans being nullified by judicial authorities.

Moreover, these prohibitions are challenged by the borderless nature of the internet, where both legitimate and illegitimate activities can be more effectively regulated by the Central Government under the Information Technology Act, 2000.

In April 2023, the Ministry of Electronics and Information Technology (MeitY) introduced amendments to the Information Technology (Intermediary Guidelines and Digital Media Ethics Code) Rules, 2021. These amendments introduced a framework for regulating online real-money games. These rules empower MeitY to designate Self-Regulatory Bodies (SRBs), which have the authority to declare whether an online real-money game is permissible based on established criteria.

Although the concept of self-regulation was initially embraced by all stakeholders, the implementation has faced hurdles. According to industry experts, the government is yet to designate an SRB, and proposals put forward by SRBs are under evaluation, leading to further delays.

Challenge 2: Building commercially viable business models

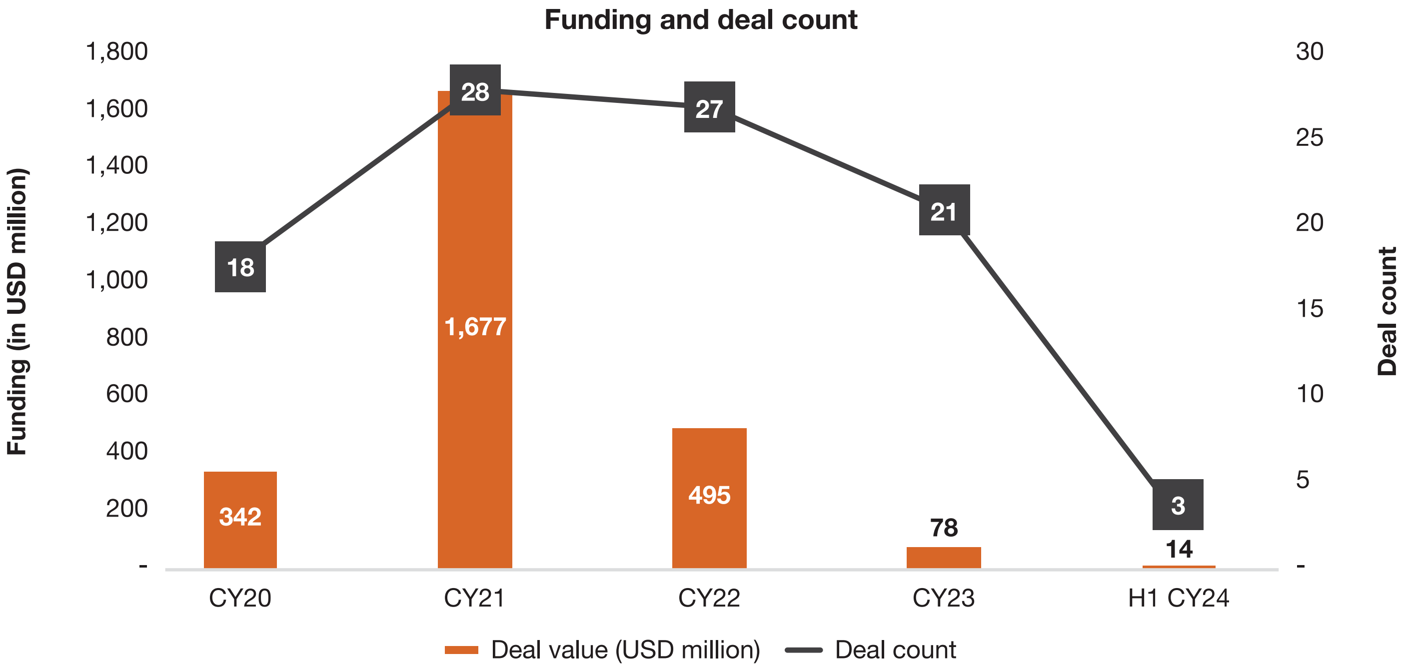
The Central Government has recently amended GST laws to impose a 28% tax on the total amount deposited with online money gaming operators, significantly increasing the tax burden on the gaming ecosystem. Adding to this financial strain, 71 online gaming companies have been issued show cause notices with a cumulative tax demand exceeding INR 1.12 lakh crore for the period prior to 1 October 2023, according to information presented to Parliament.[38]

Many skill gaming companies affected are still in their growth phase and struggling with profitability, and the tax claims surpass the combined enterprise value of these companies. It is evident that the industry will be unable to meet these liabilities and penalties.

The combination of these substantial tax demands and the recent 28% levy creates unpredictable liabilities, making long-term investment planning difficult and casting a chilling effect on the ease of doing business.

Such an unpredictable environment has also started impacting the investment sentiment in the gaming industry which had attracted FDI in excess of USD 2.6 billion beginning FY19. According to industry experts, the gaming industry hasn't been able to attract any major foreign direct investment since the imposition of new GST rates. And this is evident from analysis presented in Figure 4.

Figure 4: The impact of regulatory uncertainty and the changed tax regime on investment



Source: PwC analysis based on Venture Intelligence Data (CY-calendar year)

Challenge 3: Illegal gambling sites and advertisements

The proliferation of offshore online gambling poses a significant threat to the Indian gaming community. These entities are difficult to shut down or prosecute due to their offshore operations, and they continue to operate through mirror links while specifically targeting Indian gamers with surrogate advertisements.

The unchecked spread of these illegal platforms is also exposing the Indian gaming community to fraud and other cybersecurity risks, as many users are unable to differentiate between legitimate and illegal operators. Last year, the Enforcement Directorate (ED) dismantled an illegal betting network linked to money laundering operations worth thousands of crores.

38. Moneycontrol News (2023), Online gaming firms sent 71 GST show-cause notices worth Rs 1.12 lakh crore

A recent report by Rashtriya Raksha University[39] highlights the growing national security risks posed by the illegal online betting and gambling industry, emphasising how these platforms are becoming channels for funding illicit activities such as terror financing and money laundering. These operations have also emerged as major sources of cybercrime, including financial laundering, personal information theft, ransomware attacks, DDoS attacks, system disruptions and data breaches.

These entities have proved to be difficult to shut down as well as prosecute due to the offshore nature of their operations. Moreover, they continue to operate within the country through mirror links while targeting their advertising specifically at Indian gamers.

Proliferation of these illegal platforms is exposing the Indian gaming community to frauds, as many are unable to distinguish them from legitimate, safe online games.

India's proactive approach in trying to bring online gambling and betting companies under the anti-money laundering (AML) and countering the financing of terrorism (CFT) frameworks at the Financial Action Task Force (FATF) in Paris is a step in the right direction. Once they are brought under this framework, the sector will be required to incorporate stringent KYC norms and reporting requirements on suspicious transactions.

Challenge 4: Navigating ethical minefields in gaming monetisation

Aggressive monetisation strategies being adopted by gaming companies to achieve short-term goals is frustrating players. 'The number of advertisements that show up while playing a game sometimes makes me lose my concentration and miss the fun of gaming" is what one of the players had to tell us. Moreover, lack of transparency around pricing models and hidden fees further erode trust. Companies face the difficult task of balancing short-term gains with long-term loyalty, at the same time ensuring that monetisation strategies are ethical and sustainable.

39. Rashtriya Raksha University (2024), Curbing Betting and Gambling in India: A National Security Imperative

Challenge 5: Availability of skilled human power to build seamless gaming experiences

Effectively integrating diverse technologies such as AI, high-fidelity twinning, wearable tech and XR, which is vital to design and deliver cohesive gaming experiences, is a challenge. Companies struggle to secure talent with skills to build value at the confluence of such technologies. Many complain of the massive investments they have to make new hires come up to speed. The problem further exacerbates when such trained hires depart for greener pastures, leaving companies with a low return on investments made towards skilling.

Challenge 6: Balancing diverse stakeholder interests

This challenge centres on effectively managing the varied interests of stakeholders involved in the gaming ecosystem. With the integration of indie developers, major gaming companies, and non-gaming entities like telcos and media firms, ensuring alignment and collaboration among these diverse players is becoming increasingly complex. This is largely because gaming companies now have to address concerns around revenue sharing, content ownership and market positioning. 'Independent developers struggle to gain visibility and fair compensation in a landscape dominated by larger firms' is what one indie developer said to us. On the other hand, a leading executive of a gaming company shared how margins of gaming companies were coming under increasing pressure as the same revenue pie now had to be shared with a larger number of stakeholders, in the journey of competitively serving consumers demanding greater flexibility and value in their subscriptions.

Challenge 7: Balancing player engagement with mental health issues

Understanding the diverse needs and behaviours of players is challenging. Different players have varying thresholds for engagement and mental health issues, making one-size-fits-all solutions ineffective. While the gaming industry is taking measures to be responsible to its players in many ways by introducing checks and balances in line with global best practices, there is a need to institutionalise these measures through regulations to ensure industry-wide compliance.

Challenge 8: Producing games rooted in local culture but with a global appeal

The challenge of creating games rooted in India's art and folklore lies in balancing cultural authenticity with larger market relevance. Game designers run the risk of misrepresenting characters which could put the gaming companies at risk of a backlash. Moreover, to make the game profitable they need to ensure that characters and content are appealing to both local and global audiences. This requires an understanding of merging cultural elements with universal themes—a hard-found skill in the industry at present.

'On many occasions, to save costs, gaming companies simply use translation software towards localising the game. They fail to realise that translation is just one part of localisation' is what a gaming industry expert had to say to us.

Many companies misjudge local preferences, resulting in games that feel disconnected from their audiences, which can lead to disengagement.

Challenge 9: Societal attitudes towards gaming as a career

One of the less discussed but equally significant challenges facing the Indian gaming industry is the societal perception of gaming as a viable career option. In a country where traditional career paths like engineering, medicine and finance are highly valued, pursuing a career in gaming—whether as a professional player, game developer or e-sports athlete—often carries a stigma.

Gaming is still largely viewed as a form of entertainment rather than a legitimate profession in India. Many parents and educators perceive gaming as a distraction that hampers academic performance and professional success. This perception is compounded by concerns about gaming addiction and its impact on mental health, especially among younger audiences. Careers in game development, game design, content creation, e-sports coaching and game streaming are often dismissed or undervalued. This lack of awareness hinders the talent pipeline as potential game developers, designers and players do not receive the societal or familial support needed to pursue these paths.

05 Addressing challenges and tapping opportunities

The Indian economy at present stands at an economic inflection point. The nation's ability to build its socioeconomic destiny with demography and digitisation will define the pace at which we transform ourselves into a Viksit Bharat.

Interestingly, gaming sits at the intersection of both—demography and digitisation.

From a demographic standpoint—India—with one of the youngest populations across the globe[40]—is home to the world's second largest cohort of online gamers according to domestic industry estimates.

From the lens of digitisation, the nation boasts of the world's largest pool of IT professionals.[41] and houses the second largest internet population.[42]

Moreover, as India advances towards becoming a semiconductor and chip manufacturing hub in this decade, the need for gaming companies to import chip-based hardware is expected to reduce in the medium term, enhancing their price competitiveness into export markets.

Factoring in such existing and emergent strengths, the Prime Minister of India, Shri Narendra Modi, while delivering his 78th Independence Day Address on 15 August 2024, called upon Indian professionals to help establish the nation as a global leader in the gaming industry. He further emphasised the need for Indian talent to dominate in gaming as well as game production.[43]

To transform the Prime Minister's vision into a reality, such trends shaping the gaming and e-sports industry need to be converted into a transformative force by having gaming and e-sports companies, governments and regulatory bodies take proactive action. With the right growth strategies, appropriate government policies and regulations, and robust ecosystems, gaming and e-sports can facilitate the nation's journey towards becoming Viksit Bharat.

This section suggests actions gaming companies, governments and regulatory bodies can take to make gaming and e-sports a transformative force.

40. Ministry of External Affairs (2021), One of The Youngest Populations in the World – India's Most Valuable Asset'.
41. NASSCOM COMMUNITY (2023), How can India become Digital Talent Hub for the World.
42. Times of India (2024), 10 countries with the highest number of internet users
43. Economic Times (2024), Huge market for gaming, Indian youth should lead in producing games: PM

Growth strategies for gaming companies

Players within rapidly growing industries sometimes take growth for granted. In fact, the decline sets in the moment this thought sets in. Entities and individuals spanning the gaming and e-sports value chain must not fall into this trap. They must consciously embrace progressive practices, adopt new ways of doing business, invest in their people, and promote use of technologies that can help them cut costs and unlock new sources of revenue.

Drive ethical and responsible gaming

Games need to be designed in such a way that skill and strategy are the primary determinants of success, not the amount of money spent. Advertisements must be integrated in such a way that they do not disrupt the player experience and respect their privacy. Games must clearly communicate what players are paying for, with fair pricing and no hidden costs. Players must be intermittently alerted on time being spent by them while playing games. Players and gaming communities must be engaged through regular surveys and discussion platforms to understand their needs, and monetisation practices must be improved based on their feedback.

Gaming companies must launch immersive, tech-based games as training fields for gamers before they venture into RMG. This approach will enable gamers to understand the nuances and learn gaming techniques. By doing so, they can grasp the pros and cons before fully engaging in gaming.

By prioritising transparency, fairness and ethical practices, gaming companies can build a loyal player base and ensure long-term success while contributing positively to the gaming ecosystem.

Build value with digital threading and blockchain technologies

By transforming everyday surroundings into dynamic game environments, gaming is becoming more intuitive and accessible. Players are enjoying unparalleled autonomy in customising their virtual identities in shared spaces, revolutionising multiplayer interactions. Gaming and e-sports companies must now start finding way of putting the seamless transitioning between game modes, supported by enhanced sensory feedback, to work.

They must explore the possibility of digitally threading the gaming world by seamlessly providing unified digital identities to their players powered by blockchain technology. With cutting-edge solutions such as blockchain and unified digital identities coming into play, gaming and e-sports companies, regulators, and policymakers can form strategic partnerships and ensure optimal compliance and trust. For example, age verification services using decentralised identities built on blockchain can effectively prevent minors from accessing age-restricted games. By leveraging these secure and transparent systems, companies can enhance fraud prevention, secure transactions, and foster open game markets and economies. This holistic approach not only safeguards user data but also builds a more trustworthy and compliant gaming ecosystem.

Explore the gaming-as-a-service (GaaS) opportunity

Bundling cloud and non-cloud games under subscriptions is driving new gaming ways-to-play. Given this, GaaS is an evolving opportunity for the gaming community at large wherein indie developers and gaming giants can coexist. Together, they can leverage predictable revenue through precise marketing.

With barriers to play like expensive hardware extinguished and opportunities for bundling with music and movies opening up, the platform and player can evolve together, crafting experiences that resonate deeper.

Doing so can help the platform and the player leverage subscription-based models in collaboration with non-gaming entities like telcos and media firms, which can effortlessly integrate gaming as a new vertical, enriching their comprehensive media offerings. Adopting such an approach provides the platform the much-needed financial bandwidth to invest into building more engaging games. Moreover, such an inclusive approach also empowers companies to transcend traditional boundaries and embrace diverse entertainment landscapes with agility and less friction.

Find ways of scaling AI in gaming

AI is no more just a tool and now more of a team member for competitive gamers. Its role is becoming increasingly decisive, offering strategic advantages to players.

It is fast becoming commonplace across competitive e-sports tournaments. Coupled with machine learning, AI analyses an expanding the pool of gameplay data, such as in-game decisions, match statistics, player movements, and even behaviours.

Indian e-sports communities must therefore leverage AI towards creating training and coaching tools and providing real-time recommendations to players by analysing in-game data. Coaches must use AI to make informed decisions about player roles and roster decisions in order to increase the chances of their teams succeeding in competitive e-sports tournaments. Moreover, they can also deploy AI to develop gameplay simulations to make their players ready for any situation.

E-sports organisers must explore using AI chatbots to engage audiences during live e-sports broadcasts. During live-stream events, AI-chatbots can facilitate authentic conversations with viewers, provide real-time updates and answer questions, creating a sense of community and personalisation during such events.

Specifically, GenAI is helping game development become cost-effective. Developers can use GenAI tools to slash development costs and free up space for creativity and storytelling. For investors, it uncovers novel opportunities that enhance valuations and reveal untapped avenues in game development.

Drive responsible gaming with AI

The World Health Organization (WHO) formally recognises gaming disorder (GD) as a mental/behavioural disorder.

GD is defined in the 11th Revision of the International Classification of Diseases (ICD-11) as follows: 'a pattern of gaming behaviour ("digital-gaming" or "video-gaming") characterized by impaired control over gaming, increasing priority given to gaming over other activities to the extent that gaming takes precedence over other interests and daily activities, and continuation or escalation of gaming despite the occurrence of negative consequences'.[44]

Employing AI, big data and machine learning, gaming companies must analyse player behaviour to detect excessive patterns early. This data must be used to offer personalised support and guidance to players by adequately protecting their privacy. Gaming companies and platforms must also provide self-assessment tools and advocate for the use of self-exclusion features to aid players in responsibly managing their gameplay habits. Additionally, they must enable player defined limits (deposit limits, time locks, amongst others) to promote responsible gaming practices and foster healthier relationships with gaming.

Build differentiated games based on India's art and folklore traditions

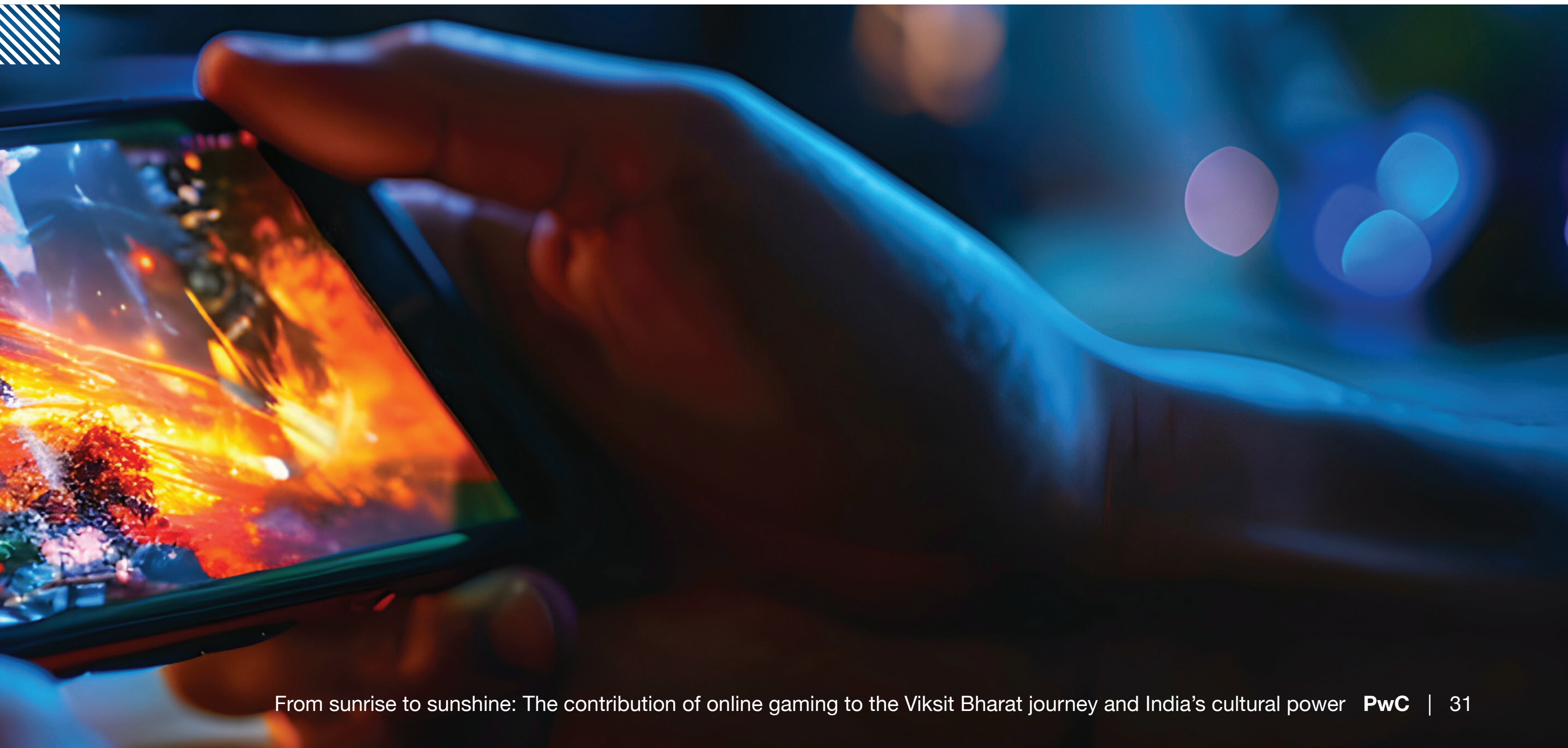
Indian gaming companies have already started leveraging the nation's rich cultural heritage in shaping games appealing to diverse audiences worldwide. By capitalising on themes inspired by Indian mythology, folklore and history, game developers are already creating immersive and culturally relevant gaming experiences fostering cross-cultural appreciation and engagement.

Taking a step forward, Indian gaming companies must use India's rich artistic heritage to build new engaging games. Indian classical music can be used to enhance the auditory appeal of games.

Game graphics and character design can be based on traditional Indian art styles, such as Madhubani, Warli or Mughal miniature paintings. Moreover, one can design games around building Warli art that can then be sold on different virtual platforms as NFTs for collectors to acquire. Classical Indian music, folk tunes and traditional instruments can be integrated into the game's soundtrack for an immersive experience.

Besides achieving a striking differentiation, such a strategy will transform gaming into a platform for many artists to showcase their art, craft and music. New sources of income and growth will open for Indian artists, helping them participate and gain from mainstream markets.

44. WHO (2024), Gaming Disorders



- build a centralised clearing house of jobs and contractual engagements within the gaming and e-sports industry that aspirants can track and apply for jobs at one place
- build a dedicated fund that can be accessed by individuals and institutions interested in pursuing AVGC-R&D
- formalise career paths.

Invest in localisation

On many occasions, gaming companies invest in a translation of the game and not localisation. One must recognise that translation deals with only the language dimension of localisation. Localisation is a rigorous process ensuring that the final product accurately conveys the original meaning while appealing to local culture.

Besides creating a player appeal and pull for the product, localisation also helps game developers and publishers comply with the ethical standards of a certain region.

So, what are some of the steps, gaming entities must focus on towards localising their offerings?

- The journey begins with translating the game's script and written text, including the user interface text.
- One must localise all voice-overs in the game and the elements of the game's story, creating a sense of ownership for the experience within the player.
- Remove or replace culture-specific references not relevant for the target audience.
- Modify the game's overall look and feel to meet the cultural nuances of the geography.
- Don't forget to translate user manuals and other information relevant to the gaming experience.

As value for gaming and e-sports starts getting built at the intersection of different technologies and platforms, localisation will start achieving a very different meaning that gaming and e-sports companies must be careful about.

Invest in building future-ready AVGC talent pools

AVGC talent pools are the backbone of any gaming and e-sport engagement. Gaming and e-sport associations, with the help of their member organisations, must:

- operationalise a communication drive that promotes awareness within the parent and student community on AVGC careers in gaming
- design certification programmes for different roles within the gaming and e-sports industry
- develop a market-centric curriculum towards each of these programmes and keep updating the same at regular intervals

Self-regulate voluntarily

While the government is working towards formulating a regulatory framework for online gaming, it's important that the industry comes together to set up robust responsible gaming measures to plug the regulatory gap and protect users' interests and its future growth.

In this context, it is indeed welcome to see the Internet and Mobile Association of India (IAMAI) curate a voluntary code of ethics for online gaming intermediaries which was signed last year by All India Gaming Federation, E-Gaming Federation and the Federation of Indian Fantasy Sports.[45]

The code mandates that online gaming companies conduct Know Your Customer (KYC) verification of users, specify the manner of determining winners, display platform fee charges on their websites, and ensure that deposits for online gaming services are utilised solely for playing games. The code also requires online gaming companies to provide users with a set of responsible gaming measures to protect them against the risk of addiction and financial harm stemming from excessive gaming. It also focuses on ensuring that online gaming companies employ responsible advertising and marketing communication practices.

45. Times of India (2023), Online gaming industry signs voluntary code of ethics

Recommendations for governments and regulatory bodies

The Indian online gaming industry is a rapidly growing sector with immense potential to contribute significantly to the digital economy, innovation and job creation. To fully harness this potential and create a stable environment for growth, the following recommendations are proposed:

Enactment of a comprehensive and robust national-level regulatory framework for online gaming in India

MeitY, as the nodal ministry for online gaming, has already introduced the Information Technology (Intermediary Guidelines and Digital Media Ethics Code) Rules, 2023 ('Online Gaming Rules'). These rules have the potential to usher in a new era of responsible online gaming by establishing strict guidelines aimed at curbing illegal activities and promoting compliance. The rules were scheduled to take effect three months after the designation of three SRBs. However, the government is yet to designate any SRB.

As highlighted in the earlier sections, there is an urgent need for a comprehensive regulatory framework to safeguard public interest and provide clarity to the industry. In light of these developments, the Government of India may consider introducing the following regulatory framework:

a. **Applicability:** The rules may be applicable to all online gaming intermediaries offering online games, including free to play and real money games/pay to play games.

b. **Level 1: Self-declaration and registration by online gaming intermediaries:**

   i. **Self-declaration and registration:** All online gaming intermediaries would be required to self-register with the competent authority designated by the Central Government by submitting comprehensive details about the legal entity, including:

      1. Corporate Identification Number
      2. Director Identification Number
      3. GSTIN
      4. TAN.

   ii. **Undertaking:** Intermediaries must provide an undertaking affirming compliance with all applicable laws, due diligence norms/Code of Ethics as proposed below and declaring that none of the games offered are in the nature of betting, gambling or wagering.

   iii. **A self-declaration certificate** may be issued to online gaming intermediaries that have self-registered and provided an undertaking. Online games offered by such online gaming intermediaries shall be regarded as permissible online games.

c. **Level 2: Regulatory body/online gaming empowered group**

   i. **Composition:** A regulatory body/online gaming empowered group consisting of industry experts, government officials, and judicial members would need to be established to provide oversight and enforcement.

   ii. **Powers:** The body may have the following powers:

      1. **Investigate and inquire** into the accuracy of information provided by online gaming intermediaries during the self-declaration and registration process.
      2. **Conduct audits** of game formats and operational practices to ensure compliance with applicable laws, and check for the presence of illegal betting and gambling activities.
      3. **The empowered group** may also have the power to **enforce penalties** and take corrective action against any intermediary found to be in violation of the regulations, ensuring the integrity of the online gaming ecosystem.

Introduce a robust and responsible online gaming framework

The government should also establish a comprehensive framework to introduce a **Code of Ethics and Due Diligence** for responsible gaming practices, including but not limited to the following:

- **RBI-mandated standards for KYC** to ensure proper age-gating mechanisms
- **RMG** to be accessible only to users above **18 years of age**
- **content moderation** to ensure appropriate and non-harmful gaming experiences
- **user-defined limits** on time and money spent, allowing players to set their own boundaries
- **periodic warning messages** from platforms to notify users when limits are crossed
- **responsible advertising practices** that avoid targeting vulnerable audiences
- **mental health support** provisions for vulnerable users who may require assistance
- **privacy and security** measures to protect user data and maintain a secure gaming environment.

Constitution of an inter-departmental committee as recommended by the DGGI to combat proliferation of illegitimate platforms

The Directorate General of GST Intelligence (DGGI), in its 2023-2024 report, highlighted that online money gaming is a high-risk industry prone to tax evasion, money laundering, cyber fraud and other socioeconomic issues.[46] Many gaming entities operate from offshore tax havens, frequently changing their websites and using dark web or VPN-based platforms to evade tax laws, making enforcement challenging.

To address these issues, the DGGI recommended the constitution of an inter-departmental committee comprising the Central Board Of Indirect Taxes & Customs, The Central Board of Direct Taxes, the Enforcement Directorate, Ministry of Corporate Affairs, Ministry of Information and Broadcasting, the Reserve Bank of India, MeitY, Department of Consumer Affairs and industry bodies. This committee may work to combat the proliferation of illegitimate platforms, ensure regulatory compliance, ensure consumer protection and uphold national security.

The DGGI also recommended creating awareness among digital nagriks (citizens) about safe and responsible gaming practices, promoting legitimate platforms registered with MeitY or verified under the IT Rules, 2021. Reciprocal arrangements with foreign governments for the purpose of sharing information and tax enforcement may also be crucial to strengthen regulatory compliance within the online gaming industry.

Acting upon these recommendations by the DGGI will be crucial to curb illegal activities in the online gaming sector and ensure a secure, regulated environment for both users as well as the industry.

46. Business Standard (2024), Govt may set up panel to ensure compliance by online gaming platforms

Need for a clarification on the GST demands

The trajectory of the Indian online gaming industry has been significantly influenced by a series of pivotal developments, including the formation of the Group of Ministers (GoM) and the subsequent recommendations and decisions of the GST Council. Throughout this journey, the sector has faced taxation uncertainties, legal challenges, and compliance hurdles, all of which underscore the dynamic and evolving nature of the industry.

As the industry adjusts its business model to align with the new GST regime, a pressing issue remains—the need to provide relief to legitimate operators in the gaming sector who are grappling with substantial retrospective GST tax demands through numerous show cause notices. The cumulative tax demands have placed a heavy burden on legitimate players within the industry, many of whom are still in the growth phase and grappling with profitability.

In light of these challenges, there is an urgent need for a formal clarification from the **GST Council** to resolve these retrospective demands, as has been done for various industries from time to time. One potential solution to resolve these demands would be for the GST Council to issue a formal clarification, adopting an **'as is where is'** approach. This would mirror the decision made during the **53rd and 54th GST Council meeting**, where relief was granted to general insurance companies and foreign airlines respectively concerning tax demands.

Issuing a similar clarification for the gaming sector would not only alleviate financial pressures on an industry poised for growth but also align with the broader vision of Viksit Bharat by fostering a more stable and predictable business environment. This would ensure that legitimate operators can continue to innovate and contribute to India's journey towards becoming a global leader in the digital economy, supporting the government's ambitions for a Viksit Bharat.

Other policy recommendations

Gaming deserves robust public investments across the value chain to transform it into a driver of sustained growth. There are several best practices one can emulate based on the experiences of other nations.

- **Skills and game development:** Value-creating experiences within gaming and e-sports are built at the confluence of different technologies. Skill building and skill upgrade to work with these constantly evolving technologies is therefore key to succeeding at building careers in this industry. The government must therefore budget for skills development initiatives for the gaming and e-sports industries. Moreover, to support experimentation, schemes need to be put in place to build gaming prototypes. The Emerging Gamemakers Fund in Australia provides grants to support the development of original, new projects from independent Australian gamemakers. It can fund the creation of a prototype or the completion of a micro-scale game. The fund is aimed at emerging creators, diverse voices and/or established creators interested in creative experimentation.[47]
- **Research and development:** Towards transforming gaming and e-sports into a growth engine for employment and entrepreneurship, one needs basic and applied research and investigation of games from a variety of perspectives, including theoretical analysis, design, ethnographic and qualitative approaches. The governments at the national and state levels must therefore provide research grants and create chairs in universities and institutions of repute to carry out fundamental as well as cross-disciplinary research related to various dimensions of gaming and e-sports. A National Competence Centre for Gaming Culture has been established at the University of Bergen in Norway with the aim of collecting, strengthening, and sharing knowledge and expertise about gaming and gambling.[48] The Center for Digital Play at the IT University of Copenhagen (ITU) is Denmark's only scientific centre for computer games research. The researchers have backgrounds in the humanities, computer science and sociology. They deal with subjects such as theoretical game analysis, game aesthetics, ethnographic studies of game communities, game design theory, AI and game experience as well as 'serious games'—how computer games can be used for education, rehabilitation, medical and many other important purposes.[49]
- **Infrastructure development:** The inclusion of e-sports in the multi-sports category by the Indian government also opens doors for recognised e-sports tournaments to achieve the same status as other offline sporting events held in the country. Taking a page from the South Korean experience, the government must now consistently allocate investments in its annual budgets towards building proper infrastructure, training facilities and coaching for e-sports athletes.

47. For more on this read Screen Australia
48. For more on this read University of Bergen Competence Centre
49. For more on this read Center for Digital Play

In conclusion

Gaming is poised to become a robust economic and social force shaping Viksit Bharat. In fact, gaming is one of the few industries that has generated business value, contributed to the national exchequer, driven remunerative and viable employment, spurred innovation, facilitated upskilling and served as a platform of soft power for the nation to grow its influence globally—all at the same time.

It's time that the industry and government stakeholders collectively shape stable and predictable regulation, establish path-breaking standards of responsible business and governance, build future-ready talent pools and drive first-to-market innovations towards transforming these sunrise industries into those that provide sustained sunshine.

About PwC

At PwC, our purpose is to build trust in society and solve important problems. We're a network of firms in 151 countries with over 360,000 people who are committed to delivering quality in assurance, advisory and tax services. Find out more and tell us what matters to you by visiting us at www.pwc.com.

PwC refers to the PwC network and/or one or more of its member firms, each of which is a separate legal entity. Please see www.pwc.com/structure for further details.

Authors

Rajesh Dhuddu

Manpreet Ahuja

Raghav Manohar Narsalay

Amit Nawka

Sanjay Tolia

Dharmesh Panchal

Co-authors

Sanket Waykar

Kamlesh Balasubramanian

Arjun Ananth

Roopdip Mukhopadhyay

Bijoy Thomas

Rajesh Sethi

Kushal Jain

Amena Pathan

Editors

Dion D'Souza

Design

Akshay Wadhawan

AW/October 2024 - M&C 41382