TechSci Research

Confederation of Indian Industry

Emerging Trends in India Gaming Industry

February, 2017

Message from CII

In the recent years, the gaming industry in India grew at a healthy pace, on account of increasing adoption of advanced gaming technologies, rising income levels, changing game preferences among consumers, growing demand for mobile gaming and rising individual escapism. The number of gamers in India has increased at a rapid pace owing to the increasing smartphone penetration and better internet connectivity coupled with improving telecom infrastructure in the country.

Increasing gaming platform options, such as mobile, console and PC are attracting gamers to play different genre of games such as strategy, casual, action, sports, etc. Moreover, the average time spent on smart devices is increasing, and thus the inclination of gamers towards mobile and online gaming is growing. Furthermore, easy availability of free-to-play games through app stores and mobile carriers is further aiding the country's gaming industry.

In the current scenario, India has become the centre for outsourcing work such as game development, game support services, etc. In the coming years, the country is expected to become the hub for development, porting and dubbing of various games across the globe, due to low cost and easy availability of game developers with world-class quality and game development experience. Moreover, with the country's youth population standing at over 350 million, India is one of the largest markets for companies operating in the global gaming industry.

Few of the major emerging trends in the country's gaming industry include growing adoption of Augmented Reality (AR) and Virtual Reality (VR) technologies, adoption of Platform as a Service (PaaS) for easy game creation, concept of soft monetization, freemium games, among others. However, the industry needs to address some major challenges such as lack of funding and increasing piracy, to realize its full potential in the coming years.

Chandrajit Banerjee
Director General
Confederation of Indian Industry

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1 Executive Summary

India is one of the largest economies across the globe, in terms of consumer spending and purchasing power. According to International Monetary Fund, India's GDP is anticipated to grow at 7.6% during 2016–17 and 2017-18, making it the world's fastest-growing economy.

The gaming industry is an important contributor to India's GDP growth. The industry includes mobile gaming, console gaming and computer gaming. Growth in the country's gaming industry is being fuelled by improving demand and supply scenario. Major demand drivers include rising inclination of Indian costumer towards gaming, growing youth population base, rising per capita expenditure, etc. On the other hand, deployment of latest technologies, implementation of government policies for welfare of gaming industry, etc., are the major supply side drivers for the sector. Various government initiatives boosting growth in the country's gaming industry include IPC, Indecent Representation of Women (Prohibition) Act, Nagaland Prohibition of Gambling and Promotion and Regulation of Online Games of Skill Bill, FDI Policy, etc.

Growth in the country's gaming industry has been majorly driven by rising demand from urban population, increasing smartphone user base and rising internet penetration across the country.

Increasing urban income levels and growing IT & telecom development has provided the gaming industry with a perfect platform in the country. Moreover, there has also been an increase in the popularity of the country's gaming industry, which has led to rapid growth in sales of high-end gaming components during the past few years.

eSports is expected to serve as an emerging platform for gamers in India during the forecast period. In order to make eSports platform successful, there is a need to make eSports a profession in the country for retaining gamers' interest for a longer period.

Global Gaming Industry Overview

2 Global Gaming Industry Overview

Gaming refers to playing electronic games on mobile phones, consoles, computer systems or other media. Gaming industry includes a variety of games being played on regular basis by gamers. Over the past few years, number of gamers have been increasing, across the globe with the emergence of new gaming technologies.

Global gaming industry has been witnessing rapid growth over the last decade due to increasing deployment of advanced technologies for the convergence of games and videos on a global scale. Moreover, proper alignment of various business models and platforms is also supporting growth of gaming industry, across the globe.

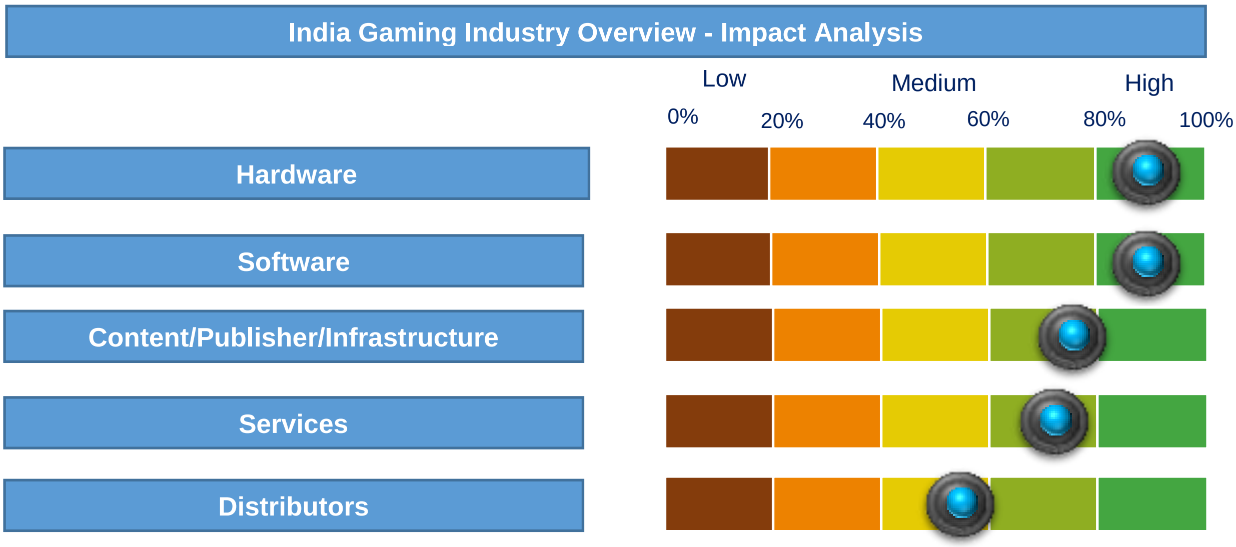
Mobile gaming accounted for the largest share in the global gaming market, on account of increasing popularity and adoption of large screen smartphones, tablets, etc., coupled with rising internet penetration across the globe. Availability of various free mobile games is also attracting gamers to download different types of mobile games on their supporting devices.

Asia-Pacific (APAC) dominated global gaming market due to presence of various developing economies, increasing adoption of different games, etc., across the region. Major gaming markets in APAC include China, Japan, South Korea, India, etc.

With technological advancements in the gaming industry, companies are also focusing on Augmented Reality (AR) and Virtual Reality (VR) enabled games. The AR and VR related products such as Head Up Displays (HUD) and Head Mounted Displays (HMD) are increasingly being used for gaming and such products have improved the global gaming scenario.

India Gaming Industry Overview

3 India Gaming Industry Overview



3.1. Current Status on Gaming Industry Pillars

3.1.1. Hardware:

Gaming industry in the country has been continuously evolving over the past few years, in terms of availability of better hardware for operating games. In India, the gaming industry has been advancing from casual to serious gamers. With presence of new and advanced gaming platforms, as well as rising penetration of gaming hardware companies in the country, the industry is witnessing rapid growth.

Kingston's HyperX brand is the most preferred hardware brand for headsets, storage and memory among Indian gamers. Under the brand, the company introduced next-gen SSDs and memory modules for providing a better gaming experience to gamers.

Emergence of new technologies such as 3D and Virtual Reality have also offered gamers with an extraordinary experience and to support demand for these technologies during the forecast period, Nvidia and ATI have many hardware products in their pipeline. In addition, ASUS is also focusing on providing gamers with hardware due to rising enthusiasm and passion among gamers.

Graphics hardware of AMD, known as asynchronous compute, helps in providing superior computer capabilities as well as low rendering latency to gamers. Moreover, for increasing awareness about gaming hardware, Acro Engineering Company has created gaming events, roadshows, gamers meet, etc., in the country.

3.1.2. Software:

Time required to develop a typical game is around 24 months and production budget is in the range of USD5 million to USD12 million, which is driving gaming industry (publishers & studios) to outsource development in order to reduce development cost and time. India is becoming a popular outsourcing destination for gaming companies, on the back of high availability of skilled game developers and rapid upsurge in the country's gaming market.

For development of PC and console games in India, animation software such as 3D Studio Max, Maya, Lightwave, etc., as well as graphics software such as Adobe Photoshop are used. However, for development of mobile games, graphic software such as Macromedia Fireworks, Adobe Photoshop, Freehand, etc., are being used.

3.1.3. Content/Publisher/Infrastructure:

Publishers help in opening an advanced experience frontier for gamers in India. Major game publishers in India include Gamezone, Video_game_publisher, gameguru, expresscomputeronline, nexus-nettech, Nazara, etc. Publishers have a high impact on gaming industry in India. Like the arena of software, publishers have started moving towards high-level by trying their hands over casual online gaming. This in turn is expected to boost India gaming market over the next five years.

Celebrity and persona based games have witnessed huge success over the last few years. Celebrity and persona based Bollywood and sport celebrity games offer a huge potential in a geography like India, and this is expected to significantly boost gaming content consumption in the country over the next five years. Jetysnthesys' PlayIzzon is among the industry leaders for developing Celebrity and persona based games as well as in publishing these games.

Though Jetysnthesys' PlayIzzon is just not restricted to these games only, the company launched a non-movie based Bollywood game names Being Salman in August, 2016. Jetsynthesys' PlayIzzon has created a celebrity persona driven platform across Bollywood and cricket with games like Sachin Saga, Bajrangi Bhaijaan and Hero: The Fight, etc.

Reliance Games is creating a platform, which would allow Indian developers to obtain international exposure to work with international publishers.

3.1.4. Services:

Gaming services have a huge impact on India gaming market, on account of

adaptability of distribution oriented development models by service providers, which, in turn, has created new opportunities for gaming companies in the country.

A subscription gaming service, namely, Zapak Plus was launched by Reliance Entertainment’s Zapak, which offers cheaper PC games to customers. Moreover, increasing hardware and game rental services has made console gaming more popular in the country. Additionally, various services such as technical support service, contact centre service, marketing automation service, etc., are also being outsourced to India.

3.1.5. Distributors:

In India, major online distributors include Steam, Desura and IndieCity, among others. The Winter Sale 2016 of Steam has enabled gamers to purchase their PC games online through Cash on Delivery, major mobile wallets, local debit cards as well as net banking.

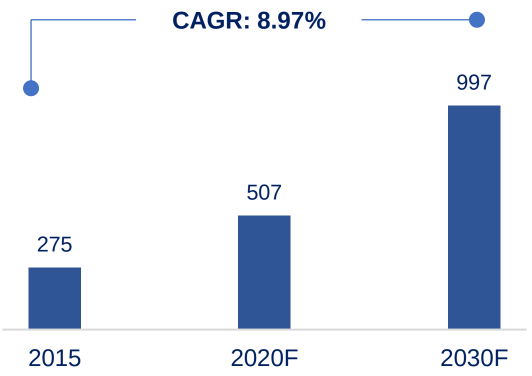
In addition, console games are sold through Large Format Retailers (LFRs) in India. These LFRs include stores such as Croma, Reliance and Landmark. Gamers can also order their tech online through Amazon and Flipkart. Gaming companies such as EA also have dedicated distributors in the country to provide games to customers.

India Gaming Industry Outlook

4 India Gaming Industry Outlook

In the past, gaming did not gain a strong foothold in India due to its low social acceptance as well as lack of access to PCs and gaming consoles in the country. However, India's economic growth has resulted in a scenario that is embracing entertainment and digital content, driven by growing penetration of Internet and smartphones.

India Internet Users, 2015, 2020F & 2030F (Million)

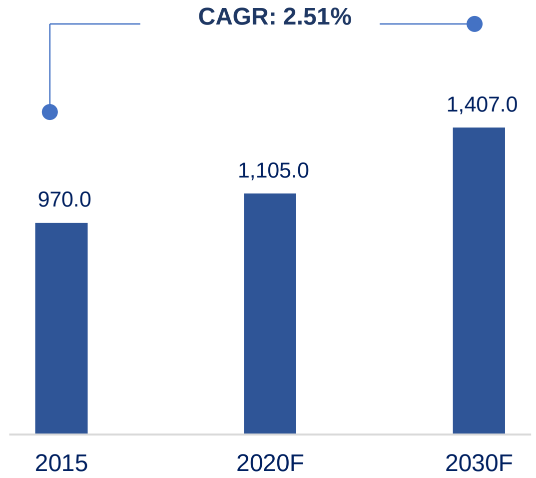


Source: Telecom Regulatory Authority of India (TRAI), TechSci Research

India gaming industry was valued at USD543.08 million in 2016 and is projected to grow at a CAGR of 6.61%, in value terms, over the next five years. The gaming industry in India has grown rapidly over the last decade, predominantly on the back of increasing smartphone and internet penetration coupled with rising income levels of consumers in the country.

In 2016, India accounted for a share of 0.55% of the global gaming industry and this is anticipated to grow significantly over the next 5 years, on account of macro-economic factors such as improving demographics, rising disposable income, changing gaming preferences of the consumers, etc.

India Mobile Subscribers, 2015, 2020F & 2030F (Million)



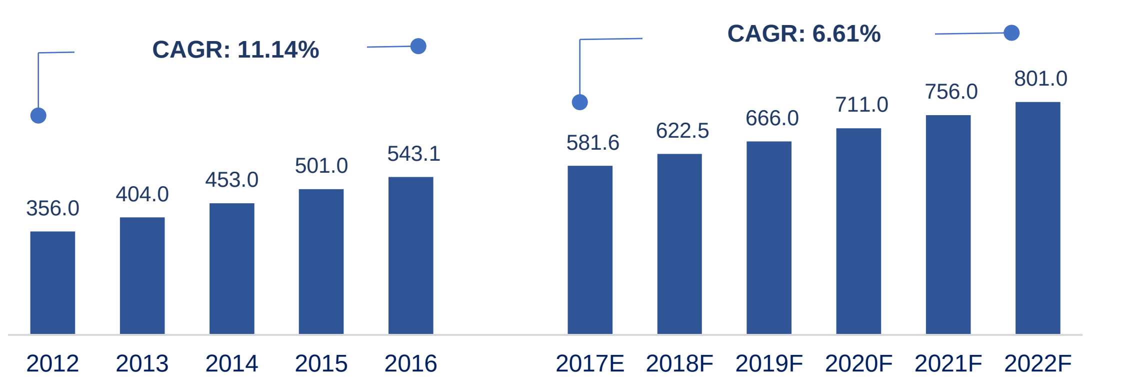
Source: Telecom Regulatory Authority of India (TRAI), TechSci Research

Moreover, increasing focus of gaming companies towards Augmented Reality (AR) and Virtual Reality (VR) related games in the country is expected to boost India gaming market in coming five years.

4.1. Market Size & Forecast

4.1.1. By Value

India Gaming Market Size, By Value, 2012–2022F (USD Million)



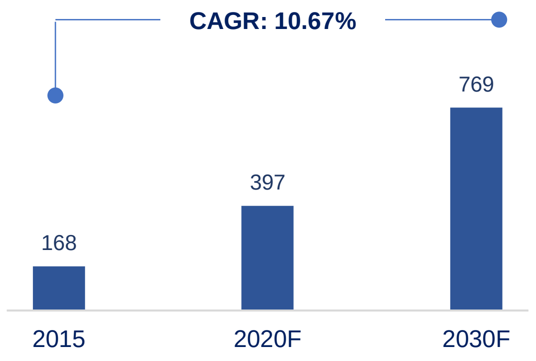
Source: TechSci Research

Over the last decade, India gaming market witnessed significant growth and crossed USD540 million in 2016. Evolving gaming consumers landscape along with increasing adoption of advanced gaming technologies are major characteristics of the gaming industry in the country.

Moreover, with emergence and growing adoption of 3G/4G network mobile services coupled with increasing production of games, gaming industry in the country is anticipated to grow significantly during the forecast period and reach USD801 million by 2022.

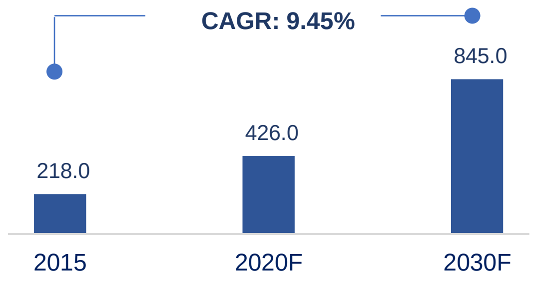
Rapid changes in the gaming industry, are expected to offer new opportunities for developers, publishers as well as technology partners in the future, and this is anticipated to boost growth in India gaming market through 2022.

India Smartphone Users, 2015, 2020F & 2030F (Million)



Source: TechSci Research

India Mobile Internet Users, 2015, 2020F & 2030F (Million)



Source: Telecom Regulatory Authority of India (TRAI), TechSci Research

4.2. Market Share & Forecast

4.2.1. By Technology

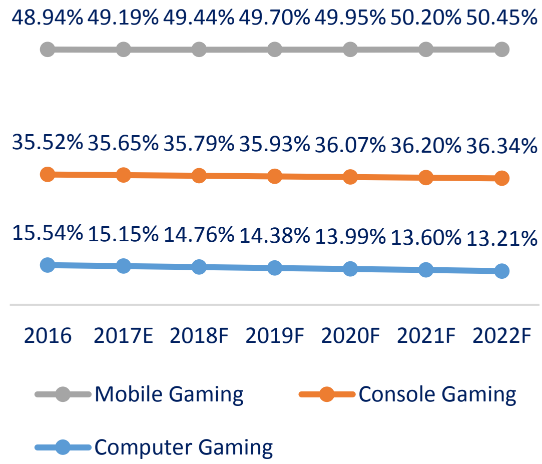
On basis of technology, India gaming industry is categorised into Mobile Gaming, Console Gaming and Computer Gaming. Mobile gaming dominated India gaming industry and accounted for half of the total

gaming industry revenues. Gaming industry in India has witnessed a shift from console gaming to mobile gaming, with growth and improvement of wireless connectivity in the country. Ease of playing mobile games

coupled with rising mobile phone

subscribers has fuelled growth of mobile gaming in India over the last few years. Increasing number of mobile internet users coupled with development of new & advanced games has boosted mobile gaming market in the country. Increasing penetration of mobile phones and smartphones in India is driving the number of mobile gamers in the country. These gamers are increasingly installing games on their phones, which, in turn is boosting India mobile gaming market.

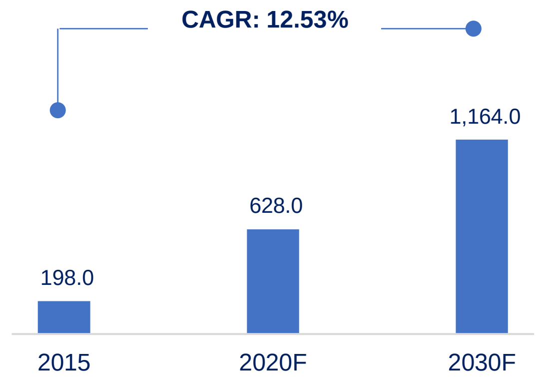
India Gaming Market Share, By Technology, By Value, 2016–2022F



Source: TechSci Research

Various mobile gaming companies are focusing on increasing adoption of Platform

India Mobile Gamers, 2015, 2020F & 2030F (Million)



Source: TechSci Research

as a Service (PaaS), as this is expected to help companies in creating games in a short

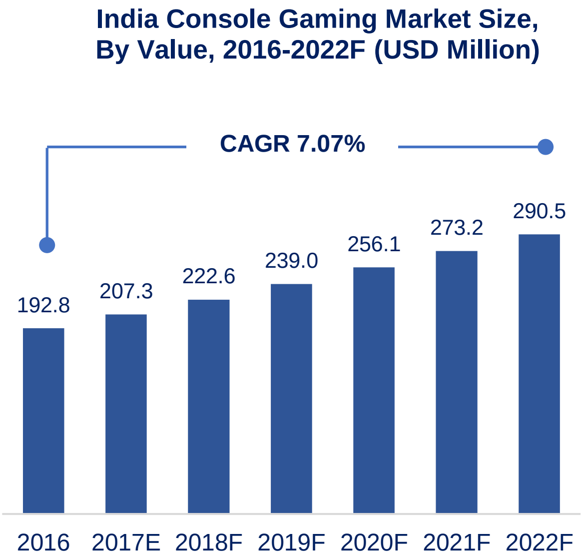
Source: TechSci Research

span of time. Further, India mobile gaming market is projected to cross USD400 million by 2022, on account of growing adoption of freemium as well as Virtual Reality games in the coming years.

Console gaming accounted for the second largest share of 35.51% in India gaming market in 2016. The procurement cost associated with console games is very high in the country, due to which the console gaming market in India has witnessed a sluggish growth over the past decade. Increasing investments in dedicated console games by ardent players along with evolving gaming consumers in India is driving console gaming market in the country.

Rising demand for evolved gaming consoles such as PlayStation 4, Xbox One, etc., is being witnessed in urban areas of India. Further, with poor internet infrastructure in the country, revenues obtained from full value game downloads through online stores recorded a decline and this in turn impacted sales of gaming consoles in the country, over the past few years.

Indian gamers are gradually moving towards console games for accessing multimedia content, due to which the market of console gaming is expected to boost during forecast period.



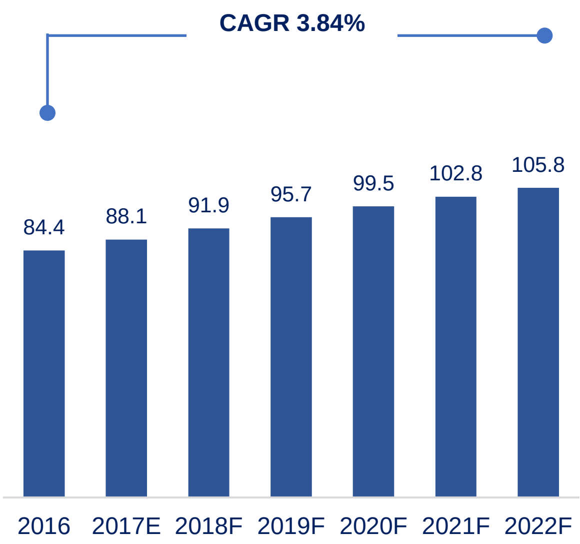
Source: TechSci Research

Computer gaming segment accounted for a share of 15.54% in India gaming market in 2016. India computer gaming market was valued at USD84.40 million in 2016.

Core gamers who do not intend to move to console gaming and make additional investments are driving computer gaming industry in the country.

Further, there has been an increase in popularity for online PC gaming due to increasing interest of gamers towards eSports and other electronic games. This is expected to boost computer gaming market in India in the coming years.

India Computer Gaming Market Size, By Value, 2016-2022F (USD Million)



Source: TechSci Research

4.2.2. By Game Type

On basis of game type, India gaming market is categorized into strategy, casual, action, sports, simulation and others, which include adventure, arcade, board, card, casino, educational, puzzle, etc.

With increasing gaming choices as well as growing technological advancements, the average time spent on playing games is also increasing rapidly. Strategy games are played majorly in the country and accounted for 16.30% share in India gaming market in 2016, followed by casual, action, sports and simulation games.

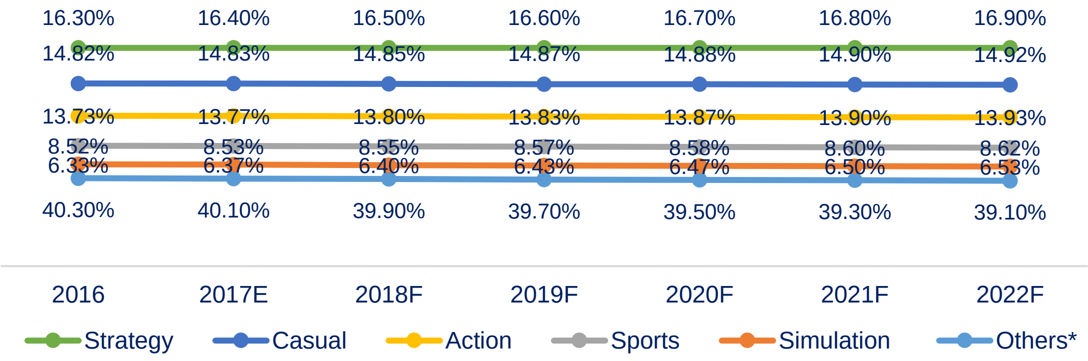
In terms of time spent on the strategy games in India, Clash of Clans, Call of Duty, Clash Royale, Counter Strike, Clash of Kings, Grand Theft Auto, Mobile Strike, etc., are some of the popular strategy games played in the country.

Rising youth population base coupled with growing awareness about different strategy games among the audiences are boosting demand for strategy games market in India and the same trend is expected to continue during the forecast period as well.

Casual games accounted for 14.82% share in India gaming market in 2016 and revenues emanating from casual gaming segment in India is projected to grow at a CAGR of 6.73% during 2017-2022, to reach USD119.48 million by 2022.

Candy Crush Saga, Angry Birds, Talking Tom, Hay Day, etc., are some of the major casual games that are popular in India. With increasing number of casual gamers in the country, the market share of these games in India gaming market is projected to reach 14.92% by 2022.

India Gaming Market Share, By Game Type, By Value, 2016–2022F



Others inclue adventure, arcade, board, card, casino, educational, puzzle, etc.*

Source: TechSci Research

Further, action games accounted for a share of 13.73% in India gaming market in 2016, with Temple Run, Doodle Army, God of War, Prince of Persia, etc., being the most played action games in the country. On account of increasing downloads of action games in the country, their revenues are expected to grow at a CAGR of 6.87% during 2017-2022 to reach USD111.60 million by 2022. Similarly, sports and simulation games accounted for a share of 8.52% and 6.33%, respectively, in India gaming market in 2016, due to low popularity of these games as compared to other games. Average time spent on these games is also less due to which these games accounted for a small market share in India gaming market.

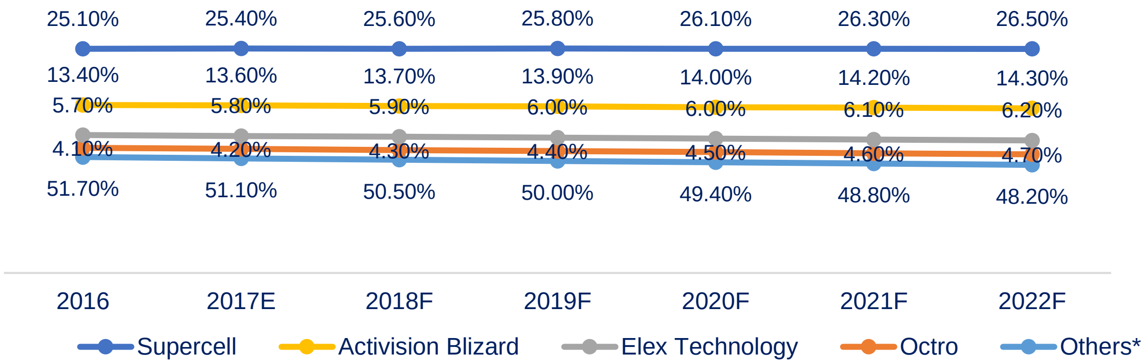
However, eSports are slowly and steadily gaining momentum in India, due to availability of improved telecom infrastructure and internet speeds. Thus, the market share of sports games in India gaming market is projected to reach 8.62% by 2022.

Further, with increasing downloads of simulation games in India, their market share in India gaming market is projected to reach 6.53% by 2022.

Other key game types played in India include adventure, arcade, board, card, casino, educational, puzzle, etc., and accounted for 40.30% share in India gaming market in 2016.

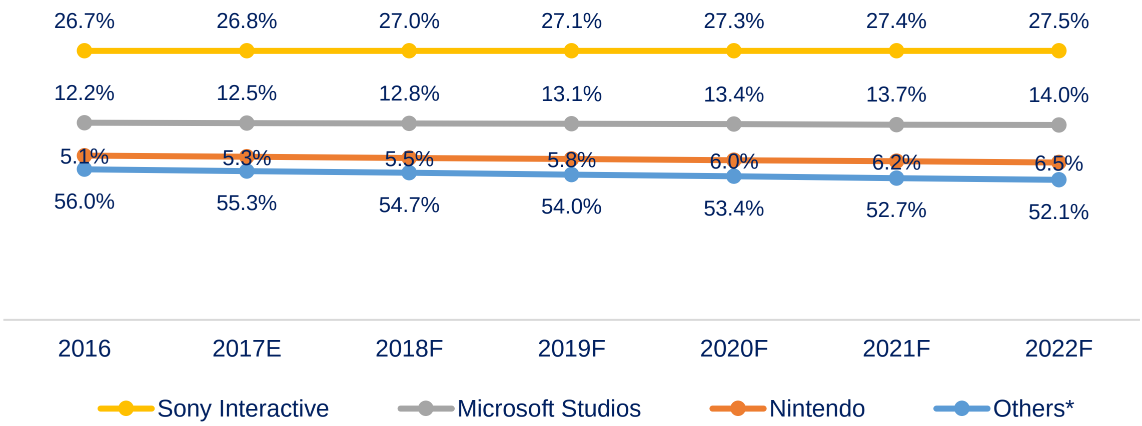
4.2.3. By Company

India Mobile Gaming Market Share, By Company, By Value, 2016–2022F



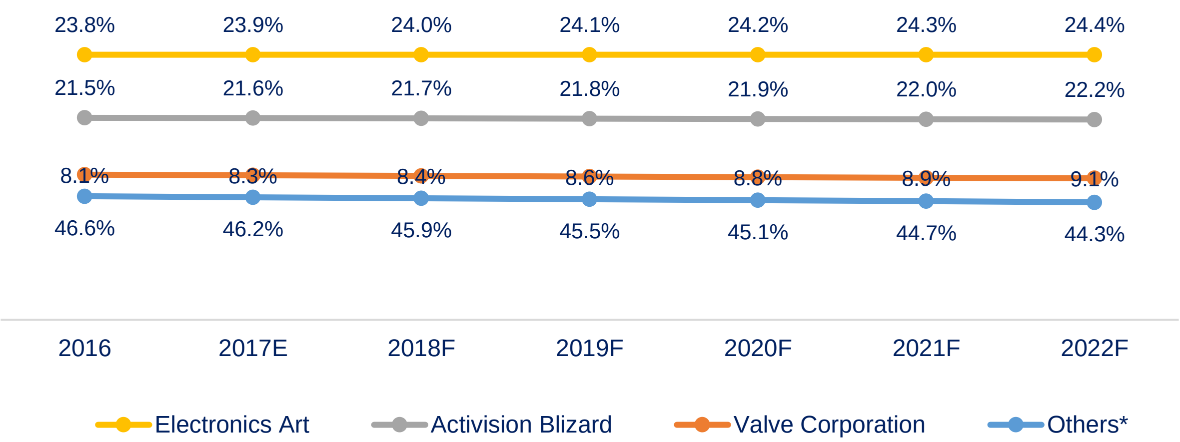
Source: TechSci Research Estimates; Others: Zynga Game Network,* Jetysnthesys' Playlzzon, *Moonfrog Labs, Ultimate Games, etc.*

India Console Gaming Market Share, By Company, By Value, 2016–2022F



Source: TechSci Research Estimates; Others: Ubisoft, Warner Bros., 2K Games, Electronic Arts, etc.*

India Computer Gaming Market Share, By Company, By Value, 2016–2022F



Source: TechSci Research Estimates; Others: Microsoft, Sony, id Software, Ubisoft, etc.*

Based on number of game downloads in India, Supercell, Elex Technology, Gameloft, Octro, Zynga Game Network, etc., are few of the major mobile game providers in the country.

Games being developed and published by Supercell include Clash of Clans, Hay Day, Clash Royale and Boom Beach. In India, there has been an increase in the number of game downloads being developed by the company. Thus, the company

accounted for the largest share in India mobile gaming market in 2016.

Further, Elex Technology, accounted for the second largest share in India mobile gaming market in 2016 and the major games being developed and published by the company include Age of Kings: Skyward Battle, Magic Wars, Vikings: Vikings: Age of Warlords, Magic Rush: Heroes, Empire Siege, Hero’s Throne, Rise of War: Eternal Heroes, etc.

Similarly, Gameloft garnered the third largest share in India mobile gaming market. Few of the major games developed and published by the company include Asphalt Series, Gods of Rome, Sniper Fury, Country Friends, Disney Magic Kingdoms, March of Empires, Dragon Mania Legends, Age of Sparta, etc.

On the basis of number of gaming units sold, few of the leading console gaming companies in India include Sony Interactive Entertainment, Nintendo, Microsoft Studios, Ubisoft, etc. However, few of the leading computer gaming companies based on number of units sold include Electronic Arts, Activision Blizzard, Valve Corporation, etc.

Sony Interactive Entertainment dominated India console gaming market in India and major games being developed and published by the company include Uncharted 4: A Thief's End, Minecraft, The Last of Us, Uncharted 3: Drake's Deception, Uncharted: Drake's Fortune, etc.

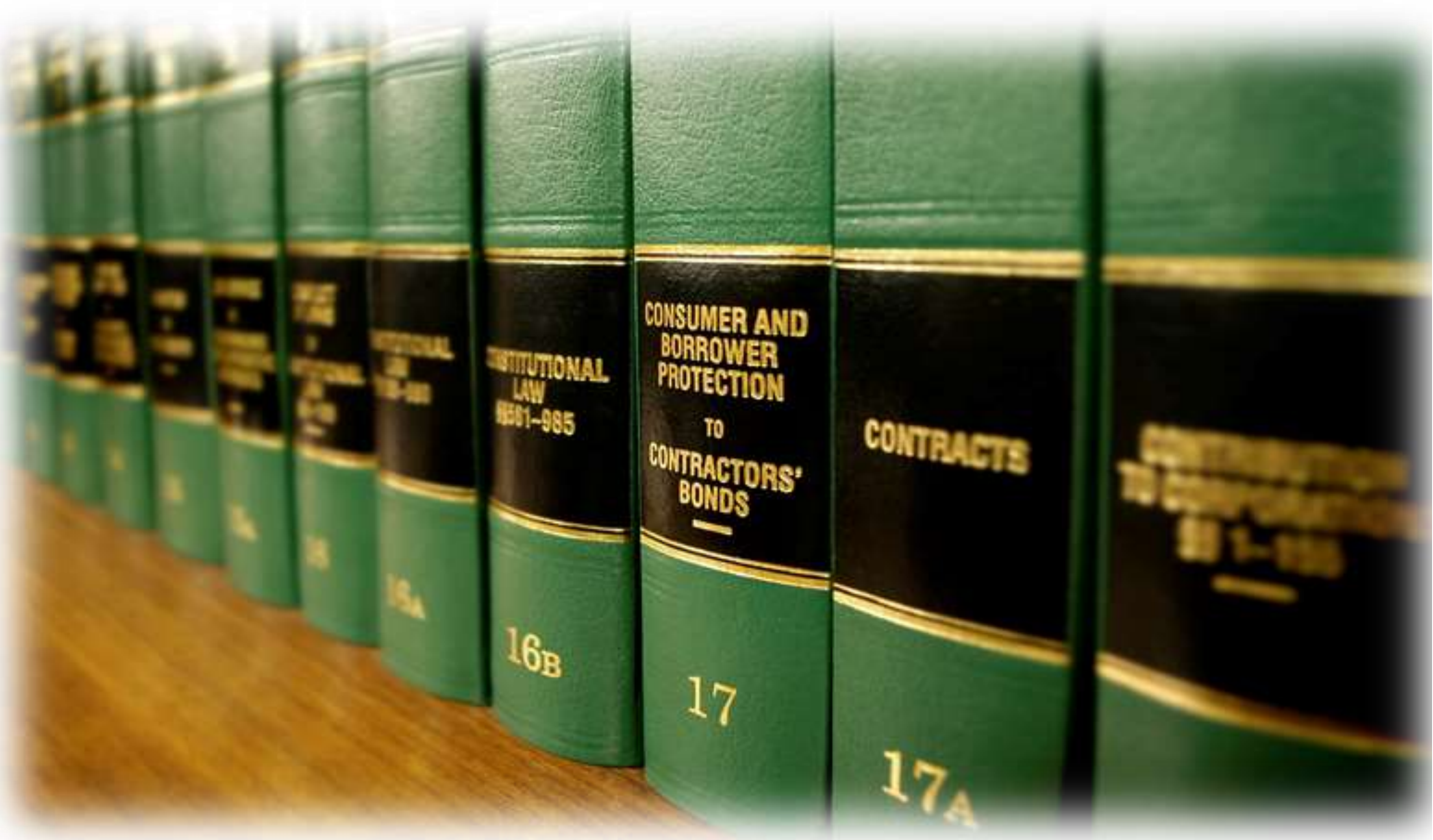
Nintendo garnered the second largest share in India console gaming market, followed by Microsoft Studios and Ubisoft. Major games being developed and published by Nintendo include Splatoon, Mario Kart 8, Mario Kart 7, Wii Sports, Steel Diver, Super Mario 3D Land, etc., whereas Microsoft Studios is engaged in developing and publishing games such as Age of Empires, Gears of War, Halo Wars, Rare Replay, Killer Instinct, etc.

Similarly, Electronic Arts dominated India computer gaming market in 2016, followed by Activision Blizzard and Valve Corporation. Major games being developed and published by Electronic Arts include Need for Speed, EA Sports, FIFA 15 Ultimate Team, SimCity BuildIt, Scrabble, Real Racing 3, Battlelog, The Simpsons, FIFA 16, Tetris, Star Wars, Plants vs. Zombie, etc.

Jetysnthesys' PlayIzzon is among the industry leaders for developing Celebrity and persona based games as well as in publishing these games. Jetsynthesys' PlayIzzon has created a celebrity persona driven platform across Bollywood and cricket with games like Sachin Saga, Bajrangi Bhaijaan and Hero: The Fight, etc.

Activision Blizzard develops and publishes games such as King's Candy Crush Saga, The Legend of Spyro, Leisure Suit Larry, Police Quest and SWAT, Space Quest, Call of Duty:Black Ops, Skylanders, World of Warcraft, StarCraft, Diablo, Hearthstone, etc.

Policy & Regulatory Framework



5 Policy & Regulatory Framework

Government Support and Favorable Policy Environment – Vital for Gaming Industry in India

Government support, initiatives and incentives by various countries across the globe, especially Canada, have provided a huge support for game development startups over the last few years. More than 350 game development companies operate in Canada, and these companies have been able to generate significant return on investment over the course of few years, predominantly on account of favorable support from Ontario Media Development Corporation (OMDC).

OMDC supports new gaming companies with funds through Interactive Digital Media (IDM) funding initiative that covers $150,000 or up to 50% of a project budget to support the companies in developing a game. Initiatives on the federal side such as Industrial Research Assistance Program (IRAP) & the Scientific Research and Experimental Development Tax Incentive Program (SR&ED), offer game development companies with an additional supplement development costs ranging from $50,000 to $500,000 every year. In addition, there are various other tax initiatives offered by Canadian Government to support the gaming Industry, including federal and provincial tax incentives, donate securities and don't pay capital gains tax, etc. Indian Government should also focus in introducing such funding and tax relaxation policies, specifically directed towards startup game development companies, which would allow the gaming companies to establish their foothold in domestic as well as international markets, coupled with creation of new job opportunities in this industry domain.

5.1. Pornographic and Obscenity Laws:

5.1.1. India Penal Code (IPC), 1860:

IPC prohibits sale, hire, distribution, exhibition and circulation of any pornographic or obscene content via electronic mode as well as through hard copy. The law penalizes persons or organisations engaging, attempting or promoting any obscene content.

Information Technology (IT) Act, 2008: IT Act penalizes transmission or sharing of any obscene content or sexually explicit material, including child pornographic content, in electronic form.

5.2. IP Laws:

India gaming industry offers a huge potential to create career opportunities. However, for the segment to witness consistent growth, introduction and implementation of stringent domain-specific IP Laws is vital. Few of the amendments in the country's IP environment that are expected to positively impact the gaming industry in India are as follows:

1. The Trademark Law: A Canadian trade-mark registration can be obtained in 20 to 24 months of filing and it also enables the registrant with the exclusive right to use the mark across Canada for a period of 15 years, with renewal for successive 15 year period on payment of renewal fees. On the other hand, trademark law in India is valid for 10 years and can be renewed thereafter for further ten-year period only.

2. The Copyright Act: The Canadian government is considering extending this term to 70 years. If the copyright is litigated and prevents any person from relying on the defence of "innocent infringement" (i.e., where the infringer did not know and had no reason to suspect that copyright existed in the work). If there is no registration, an infringer who successfully proves the defence of innocent infringement could be prohibited from further copying but would not be liable for damages. The above is not inculcated in India Copyright law, and a person is liable for punishable offence subject to fine of up to INR 50,000.

3. The Patent (Utility) Law: This law doesn't exist in India, which causes patenting process to be very monotonous and it could be blamed for more than 70% of patent application in India by non-residents. India requires the Patent Utility Law as it will simplify the current patenting processes. It will also support the startups, which don't have enough capital for conducting test and trials for current patenting procedure.

5.2.1. Indecent Representation of Women (Prohibition) Act, 1986:

The Act prohibits any indecent representation of a woman, or depiction in any manner of the figure of a woman through advertisement, publication, writing & painting or electronically.

5.3. Law Related to Action based and Violent Games:

5.3.1. Young Person's (Harmful Publications) Act, 1956:

The Act prohibits publication, distribution, and selling of any publication that portrays commission of offences; acts of violence or incidents; and incidents of a repulsive or horrible nature through electronic mode as well as hard copy.

Penalty Implied: Imprisonment or fine or both, if found guilty.

5.4. Telecom Laws Related to Social Gaming

5.4.1. Telecom Commercial Communications Customer Preference Regulations, 2010:

The Act prohibits transmission of SMSes to a subscriber who has elected not to receive commercial messages. Moreover, the Act forbids telemarketers or gaming companies to receive incoming messages in reply to any transactional messages.

5.5. Mobile Application Related Cybersecurity Laws:

5.5.1. National Cyber Security Policy, 2013

The policy aims to create an infrastructure for conformity assessment and provide an assurance framework to encourage adoption of global best practices in information security and compliance.

The policy also aims to mandate and encourage secure application/software development process based on global best practices.

5.6. Telangana Gaming & Animation Policy, 2016

The policy aims to make Hyderabad the most preferred destination for investing in Animation, Visual Effects, Gaming & Comics (AVGC) sector, and set up a Telangana Animation and Gaming-IMAGE City. In addition, the policy also aims to facilitate a legal framework for creation and protection of Internet Protocol (IP) in the state.

5.7. Foreign Direct Investment Policy

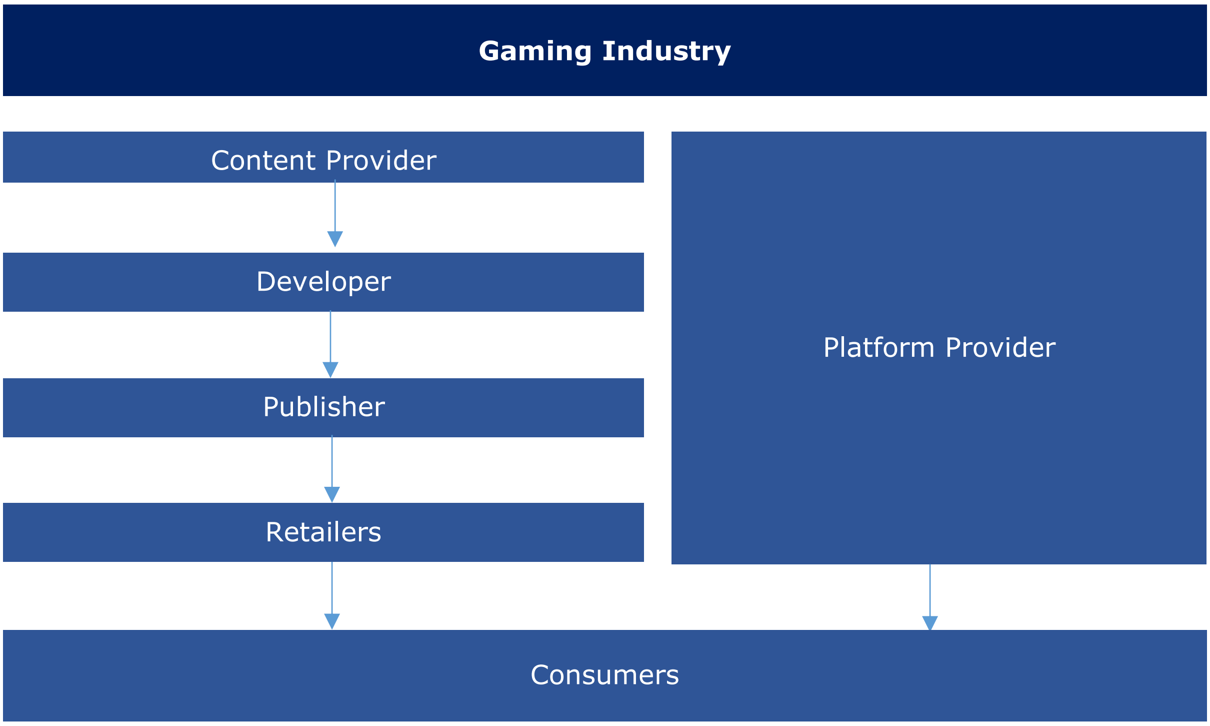
The policy is issued by the Ministry of Commerce & Industry and is engaged in prohibiting government as well as private lotteries along with gambling and betting in the country.

5.8. Nagaland Prohibition of Gambling and Promotion and Regulations of Online Games of Skill Bill, 2015

The purpose of this Bill is to regulate and promote conduct of online "Games of Skills", which include preponderance of skill over betting. The Bill also aims in earning revenues through licensing fees and royalty.

Supply Chain Analysis

6 Supply Chain Analysis



Major expenses of publishers packaging, inventory, overheads, etc., and the publisher is also responsible for paying the developer a down payment as well as a royalty fee of 15%. In addition, 35% of the revenue generated from the games is directed to resellers and distributors. There are three monetization models in the gaming industry, which include Free, Freemium and Premium.

In free gaming model, gamers do not need to pay for games they play and cost is generated through advertisements of those games. Mini Militia, Infinity, 2048 Number Puzzle, etc., are few of the popular games that fall under free gaming model in India.

Under the Freemium gaming model, game applications are free to download and play, but some features of these games cannot be accessed by gamers unless the user pays for it. Clash of Clan, Candy Crush, Pokemon Go, Temple Run, etc., are few of the most popular freemium games being played in India.

Similarly, in premium gaming model, gamers need to pay for the game before downloading and playing it, as these games have an upfront price associated with them. The games being played under the premium gaming model in India include Grand Theft Auto, Temple Run Oz, Inferno 2, etc.

Market Dynamics

7 Market Dynamics

7.1. Drivers

7.1.1. Increasing Smartphone Users:

Rising smartphone penetration has resulted in an increase in number of mobile gaming players in the country. Easy availability of various games on application stores coupled with their ease of download are some of the major factors aiding growth in India gaming industry.

7.1.2. Enhanced Wireless Connectivity:

Increase in broadband and wireless internet penetration has led to the widespread adoption of online gaming in India. Growing consumer spending on gaming products and services due to decline in data access charges and mobile internet services are also fuelling growth in the country's gaming industry.

7.1.3. Acceptance by Masses:

In India, users are playing more than one game of different genres in a day, and thus gaming has become more casual in the country. In addition, the number of female gamers has also increased in the country, and they are spending more time on mobile games as compared to men. Hence, increasing acceptance of gaming by the masses is boosting India gaming market.

7.1.4. Extensive Content Choice across Different Platforms:

Growing promotion of mobile, console and computer games in India has provided consumers with multiple ways to enter the country's gaming industry, which has led to an increase in the number of casual gamers in the country. This trend is expected to positively influence the country's gaming market in the coming years.

7.2. Challenges

7.2.1. Lack of Skilled Manpower:

With lack of resources as well as infrastructure, gaming developers in India often remain isolated from the latest technologies and development kits that are being used and developed across the globe. Moreover, unavailability of high quality localized gaming content has degraded the gaming experience in the country.

7.2.2. Absence of Funding:

To provide customers with cutting-edge services, gaming companies in India require adequate funding for IP and infrastructure development. Based on global meltdown and credit crunch, constraints in funding are

likely to be witnessed in India gaming industry during the forecast period.

7.2.3. Prevalence of Piracy:

Easy availability of pirated games in India has enabled gamers to play their desired games for free or relatively less cost, which has impacted sales of the country's gaming industry. Moreover, with the lack of dedicated laws, it is becoming difficult to manage gaming related issues in the country.

7.2.4. High Cost of Installation and Maintenance:

Increasing installation of various advanced graphic cards for playing high-end PC games has led to an increase in prices of laptops and PCs, which is turning out to be a major challenge for India gaming industry, as consumers are not ready to spend on such high-end and costly products.

Market Trends & Developments

8 Market Trends & Developments

8.1. Growing Deployment of Augmented Reality (AR) and Virtual Reality (VR) Devices:

AR and VR devices such as head up displays, head mounted displays, etc., offer enhanced gaming experience to users. As a result, adoption of AR and VR devices for gaming purpose across the country is expected to increase over the next five years as well.

8.2. Adoption of Platform as a Service (PaaS) for Easy Game Creation:

The deployment of PaaS by gaming start-ups is expected to offer them with an opportunity to create games easily and within the shortest time span, which is one of the most prominent trends in India gaming market.

8.3. Emergence of Game Development Outsourcing (GDO):

Over the past few years, there has been an increase in the cost associated with development of games across the globe. Therefore, game developers are shifting their focus to India for outsourcing their key working components. This will enable game developers in India to work closely with talented game developers across the globe which will help them provide an enhanced gaming experience to their customers.

8.4. Rise in Freemium Games:

Despite availability of cheap internet plans and low cost games in India, gamers still prefer not to pay for mobile games. Freemium or Free to Play games are helping gamers play games for free, hence enabling them to customize their gaming experience via in-game purchases.

8.5. Concept of Soft Monetization:

India gaming industry is moving towards the concept of soft monetization. Through this concept, the gamer can gather money from various players for developing sophisticated content. This concept was introduced to increase engagement of customers in games.

Competitive Matrix

9 Competitive Matrix

	Mobile Gaming	Console Gaming	Computer Gaming
Supercell	✓	✗	✓
Sony Interactive Entertainment, LLC	✗	✓	✗
Electronic Arts	✗	✓	✓
Elex Technology	✓	✗	✓
Nintendo	✗	✓	✗
Gameloft	✓	✓	✓
Activision Blizzard	✗	✓	✓
Octro	✓	✗	✗
Microsoft Studios	✗	✓	✓
Zynga Game Network India Private Limited	✓	✗	✗
Moonfrog Labs	✓	✗	✗
Valve Corporation	✗	✗	✓
Ultimate Games	✓	✗	✗
Nazara Technologies	✓	✗	✗
Zapak Digital Entertainment	✓	✗	✗
Jetysnthesys' PlayIzzon	✓	✗	✗

Strategic Recommendations

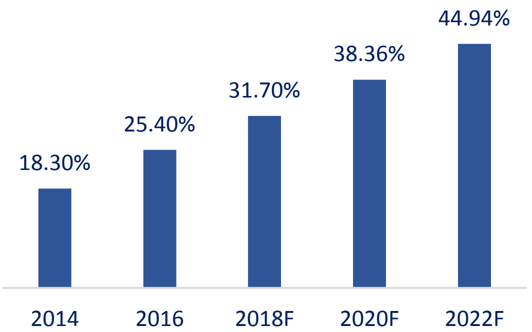
10 Conclusion & Recommendations

India registered robust growth in terms of number of gaming users. India's stood at the 18th position in global gaming industry in 2015. The country is projected to become a gaming hub in the coming years. Companies can benefit by adopting certain strategies.

10.1. Mobile Gaming - The Future of Indian Gaming Industry:

With growth in wireless connectivity coupled with rising penetration of connected devices including smartphones, tablets, etc., the Indian gaming industry is shifting from console gaming to mobile gaming. In addition, mobile gaming registered around 50% revenues in the country's gaming industry.

India Internet Penetration, 2014, 2016, 2018F, 2020F & 2022F (%)



Source: TechSci Research

Further, growing technological advancements and rising demand for realistic mobile games, is expected to push this market towards virtual gaming which in turn is expected to drive mobile gaming market in India.

Growing government focus towards skill enhancement through Applied Games in different sectors is also expected to drive India mobile gaming market in the coming years. Therefore, game developing companies are recommended to focus on realistic mobile games to enhance its user experience across India.

10.2. Strategy Games - The Fastest Growing Game Type in India:

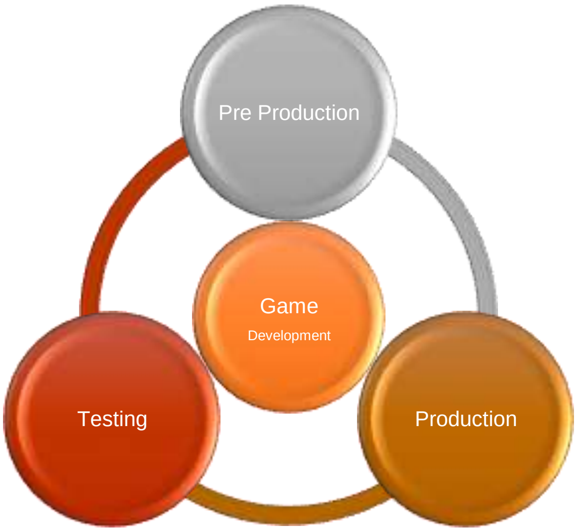
Growing youth population base coupled with rising awareness about different strategy games among users is driving demand for strategy games.

Further, daily average time spent on games is increasing at a significant pace. Majorly Indians spend plenty of time playing strategy games such as Clash of Clans, Grand Theft Auto, Counter Strike, etc.

10.3. India - A Hub for Outsourcing

The development cycle for a game includes different steps including game concepts development, scripting, programming, character design & creation, animation, level creation and testing.

Further, the development cycle of a game divided into three stages - Pre-production, Production and Testing.



As developing is an expensive and time taking part of the cycle, game developing companies outsource game development to other countries such as India, where highly skilled workforce is available at relatively low costs, as compared to other countries.

Apart from low cost, India serves as an emerging market for gamers as well and this is anticipated to help foreign companies perform game testing with the available gamer audience. In addition, major international studios including Electronic Arts, Ubisoft, Zynga, etc., have already set up their game development centres in India.

Notes

Notes

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About TechSci Research

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CII is a non-government, not-for-profit, industry-led and industry-managed organization, playing a proactive role in India's development process. Founded in 1895, India's premier business association has over 8000 members, from the private as well as public sectors, including SMEs and MNCs, and an indirect membership of over 200,000 enterprises from around 240 national and regional sectoral industry bodies.

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Confederation of Indian Industry

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