Online gaming in India: Reaching a new pinnacle

A study by KPMG in India and Google

May 2017

Highlights

Indian online gaming industry to add **190 million gamer(s)** and become a **USD one billion opportunity by 2021**, from USD 290 million today
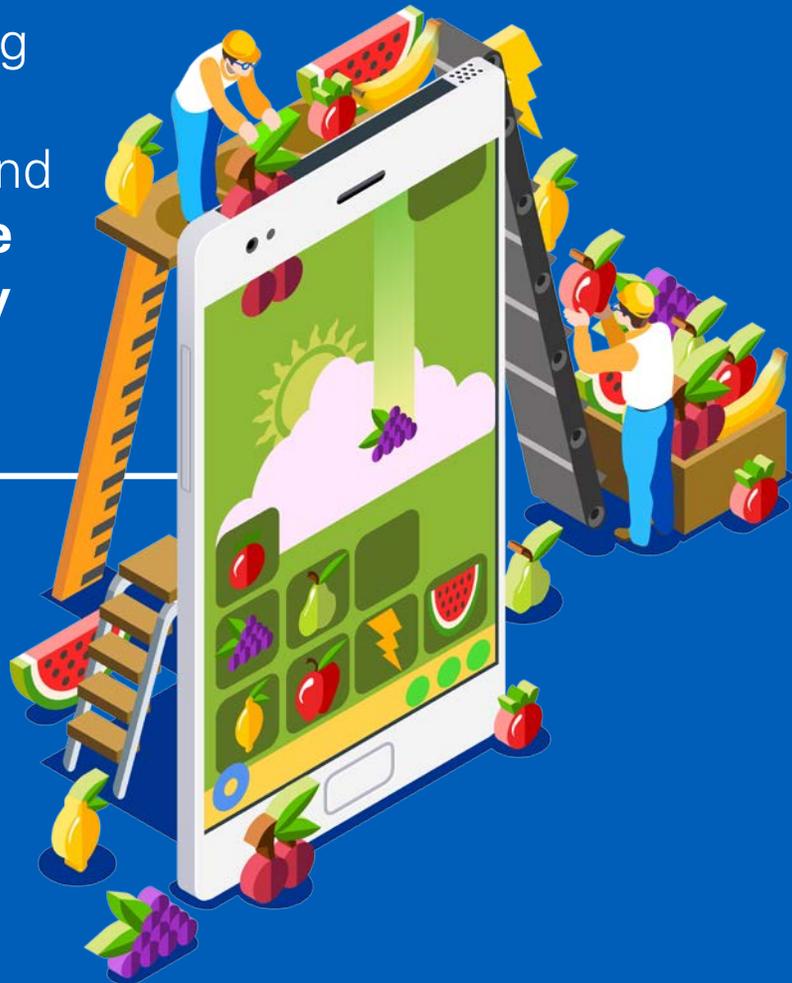
An average Indian online gamer:
- is introduced to online gaming through their friends, family and peer group
- is engaged in gaming for stress relief and social interaction
- prefers puzzle, action and adventure games

India is steadily moving towards value driving consumption, with increased focus on local development

India is moving towards improved age and gender parity among online gamers. The majority will continue to play on mobile devices in 2021

Executive Summary – An overview of online gaming market in India

The advent of India's online gaming industry can be dated back to 2000s, when console and PC gaming brought several middle-income group Indians on digital gaming platforms. During mid 2000s, online gaming was largely in the form of social games. This adoption was facilitated primarily through global games by international developers. Indian development ecosystem acted primarily as service providers for international developers. Since then, India has been a volume based story enabled by rise in internet penetration and increase in smartphone user base.

Online gaming market realized impressive volumes with 120 million online gamer(s) and market value estimated at ~ 290 million USD in 2016. The key driver of market volume was proliferation of low cost smartphones amongst urban and rural population. The monetisation is realized through revenue streams like in-app purchase, pay per download, subscription service etc. by gamer(s) and in-app advertisement, incentive based advertisement etc. by ecosystem. Today, monetisation is dominated by advertisers and publishers.

However, challenges like limited local games development and monetisation of gamer(s) are still restraining the high potential. In recent years, local internet ecosystem has initiated the course correction by end to end local game development and adoption of digital payment solutions.

As compared to global markets, India has a diverse consumption pattern and gaming behavior. This diversity exists across

Gamer profile – An average Indian gamer is a below 24 year male

Genre preferences – Puzzle, Action and Adventure games are preferred across age and gender groups

Consumption drivers – Friends, family and peer group play a critical role in discovery and download of a new game

Payment behavior – Availability of free substitutes and perception of high pricing are limiting the realization of revenues through gamer(s)

The online gaming consumers market, characterized by large volumes, is rising fast in terms usage and monetisation. The local development is characterized by highly skilled manpower and expertise.

In the future, India is expected to move towards value driving consumption and comprehensive local development. The industry is expected to gain momentum and reach a market value of 1 billion USD and ~310 million online gamer(s) by 2021. This ~28% CAGR growth will be driven by

Rising disposable income

Young India

Affordable new technologies

Localized games

Internet reaching every corner of the country

Increase in smartphone penetration

Digital payment user base on the rise

Growing local developer ecosystem

Executive Summary – Online gaming 2021

Freemium games to create better economics for gaming companies

Convergence of stakeholders to drive adoption and usage of **mobile internet**

Content customization for the 'Indian' taste: **Local brand**
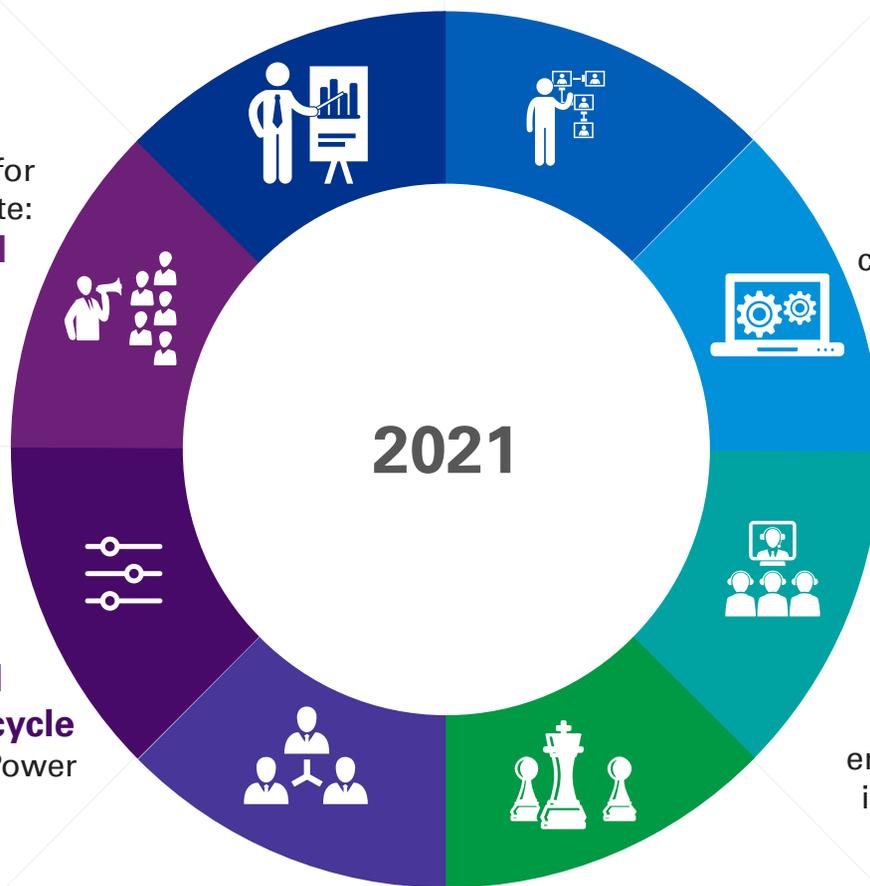
Emerging technologies to become a commercial reality in India

2021

Enhanced customer lifecycle at every stage: Power of data

e-Sports to augment engagement levels in online gaming

Improved age and gender parity in the online gaming population

Gamification to offer opportunities across business functions and sectors

31
The global gaming Market
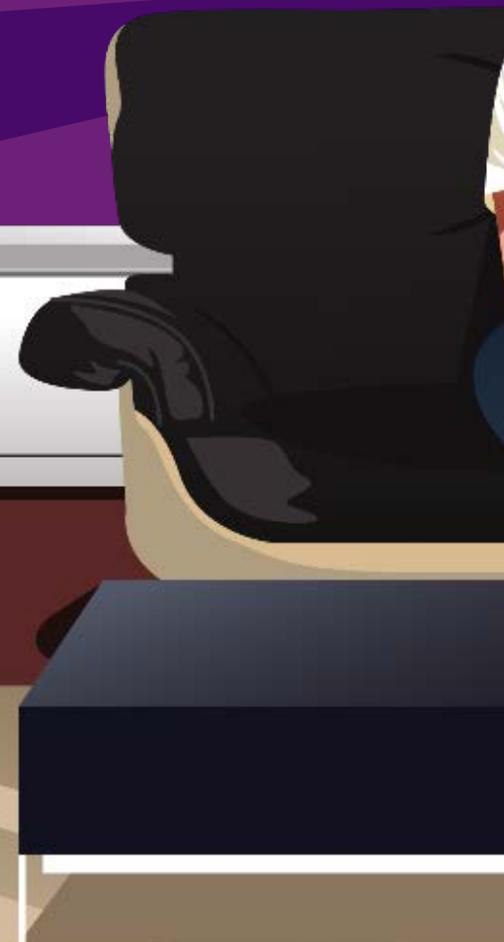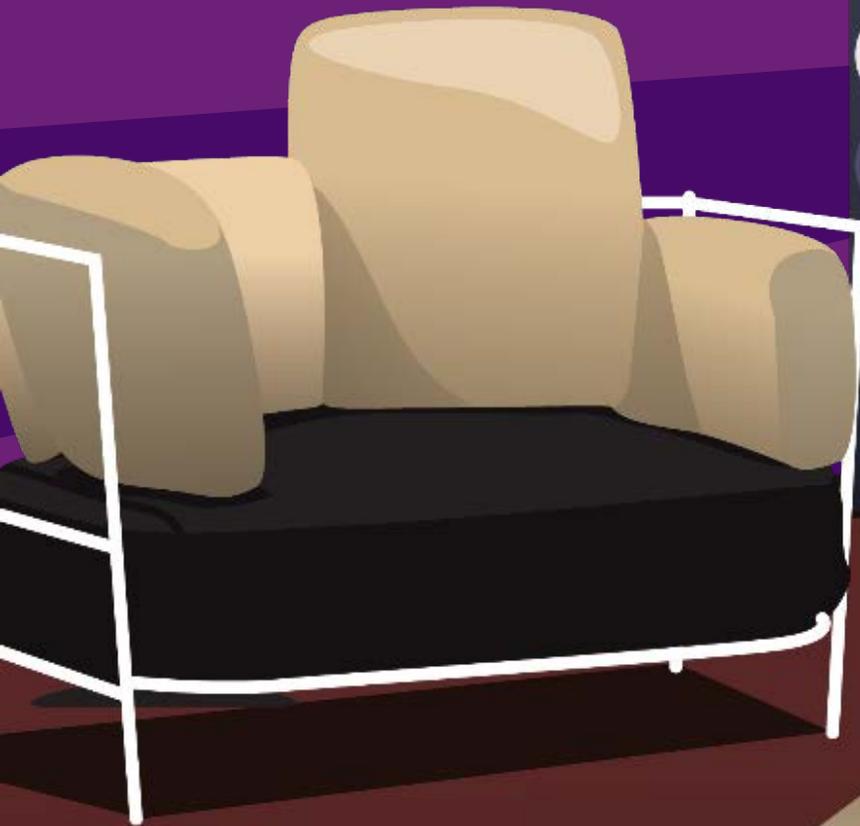
The future of online gaming in India
35

India's Online Gaming Story

1. Indian online gaming market currently stands at USD 290 million, and is poised to grow to USD one billion by 2021

2. Steady rise in consumption volumes. Local development and monetisation is expected to catch up

   a. Traditionally pure-play service providers, local companies are expanding to develop end to end games

   b. Freemium model is expected to improve monetisation for developers in online gaming

Online gaming – What is an online game?

The term 'Online Gaming' has multiple interpretations today, as internet and network platforms facilitate procurement or game-play of almost all games. Online gaming is defined based on:

1. Channels used to procure or access the game
2. Device used to play and
3. Mode of game-play

Online game is procured or accessed through online channels and requires internet in the primary game-play experience or monetisation. *Online games include all genres and can be played across single-player, multiplayer and massively multiplayer formats.*

Online gaming

Modes of game-play
▲ Online   ● Offline

Channels of procurement / access	Consoles		PC/Laptop		Mobile/Tablet	
Browser Based Gamer(s) logs-in through a web browser				▲		▲
App Based Gamer(s) downloads the games through an App distribution store (operating system based, device based or third party)	●	▲	●	▲	●	▲
Pre-loaded / Offline purchase channel Game is pre-loaded on devices or is purchased through traditional channels	●	▲	●	▲	●	▲

Online games

Player Formats

Single player
Played by only one person

Multiplayer
More than one person play simultaneously in same environment

Massively multiplayer
Large number of gamer(s) (hundreds/ thousands) play simultaneously in same environment

Genres

Puzzle
Problem-solving skills including logic, pattern recognition, sequence solving, word completion etc.

Action
Physical challenges including hand-eye coordination and reaction time

Strategy
Gamer(s) uninfluenced decision making skills have high impact on outcome of the game

Adventure
Interactive story based games, usually played as an individual protagonist

Arcade
Mostly single player games with short levels, intuitive control schemes and increasing difficulty levels

Sports
Sports based simulations

Racing
Racing competition with land, air or sea based vehicles

Skill based
Games in which outcome is dependent on a gamer's mental skills

Chance based
Games in which outcome is determined by chance

Source: KPMG in India research and analysis 2017

An online gamer can be classified as a casual or a professional gamer. This classification is a function of time spent on games, commitment levels, complexity of game play and intention behind playing games (recreation or profession). The report includes both concepts.

# Indian online gaming industry, currently stands at USD 290 million, and is poised to grow to USD 1 billion by 2021

The online gaming market has realized impressive volumes with 120 million online gamer(s)[1] and estimated market value at USD 290 million in 2016[2].

The key driver of market volume was proliferation of low cost smartphones amongst urban and rural population. 75 per cent of the market was dominated by entry-level or sub-INR 10,000 smartphones in calendar year 2015[5].

As compared to 31 per cent today, the internet penetration is expected to reach ~53 per cent of population by 2021[7]. The smartphone users, projected to be 470 million by 2021[9], are expected to enable this rise in internet penetration. The availability of affordable smartphones is expected to prompt a shift from the current feature phone users to smartphones.

The surge in volumes of mobile internet users is likely to be complemented by a five times rise in data consumption[12] and 1.6 times increase in disposable income[14] of our country. Hence, the market is expected to be enhanced with young population, high internet volumes, engaged online users and improved paying propensity by 2021.

With background of such developments, the industry is expected to gain momentum and reach a market value of USD one billion and ~310 million online gamer(s) by 2021[16]. This growth is expected to be further supported by the comprehensive rise in digital payment user base, launch of new technologies at affordable rates, increase in local developer base and focus on development of content with local themes, Indian languages and global standards.

Indian market characteristics

	2016		2021P
Online Gaming Market (USD Million)[3]	290	3.4x	1010
Number of online gamer(s) (million)[4]	120	2.6x	310
Total Population (million)[6]	1325	~63% in below 35 year age group by 2021[17]	1400
Internet Users (million)[8]	409	1.8x	735
Smartphone Users (million)[10]	290	1.6x	470
Smartphone to Feature phone shipment ratio[11]	~0.65	10x	~6.6
Data consumption per active smartphone (GB/month)[13]	1.4	5x	7
Disposable Income (USD Billion)[15]	2,280	1.6x	3,750

The growth is expected to be enabled by multiple factors

Digital payment users on the rise

Digital payment users set to increase to ~ **300 million*** by 2020 [18]

Affordable new technologies

Introduction of new technologies such as **VR available at affordable rates (less than INR 500)**[20] is expected to enhance the experience and enable pervasive online gaming

Growth Drivers

100+ developers of online games to be **added in the next four to five years**[19]

Gaming content and themes to be **developed** keeping in mind **local preferences** and **languages**. The Indian language internet users are expected to rise to ~540 million in 2021[21]

**Growing local developer ecosystem**

Localised games

The projections are pre demonetisation estimates.
Source:
[18] - Digital Payments 2020, BCG Google study, July 2016
[19] - How gaming industry is shaping up in India, Sandeep Soni, Franchise India (http://www.franchiseindia.com/), February 2015
[20] – Best VR Headsets in India, TechZene (www.techzene.com), January 2017
[21] – Indian Languages – Defining India's Internet, A KPMG in India and Google report, April 2017
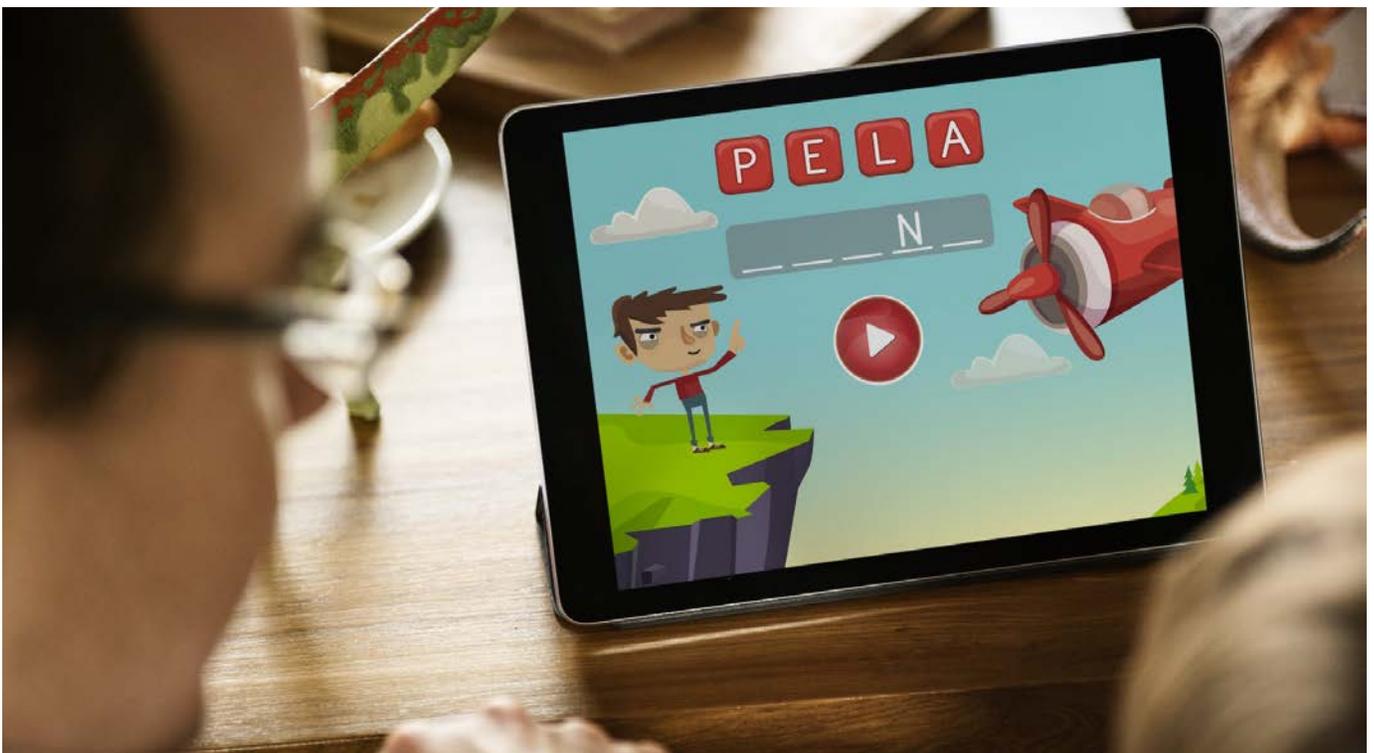
Pre 2010: Limited demand and tertiary supply of online games

Pre 2005:

The advent of India's online gaming industry can be dated back to early 2000s, when console and PC gaming brought several middle-income Indians on digital gaming platforms. Although the consumption was limited to a niche customer segment due to high cost of PCs and consoles, it underlined the potential of online gaming in India.

2005 - 2010:

During the mid-2000s, social media introduced a significant percentage of Indian population across age, gender and socio-economic groups to online gaming. The online population started exploring, learning and sharing online games across social media platforms.

During this period, the supply was dominated by global publishers. Global gaming companies began to establish local shops to tap the Indian gaming market. The number of local service providers went up from five major gaming companies before 2005 to ~25 companies by 2010[22]. Smartphones began to gain popularity and replaced feature phones significantly by 2010. This paved way for inception of new, less capital intensive opportunity for the local gaming companies. Indian gaming companies acting as service providers so far, began end to end development of games for the Indian market.

Stages of online gaming market	→	FOUNDATION Early days of digital gaming **Pre-2005**	INCEPTION Online gaming introduced on a large scale **2005-2010**
Consumption volume, engagement levels and online gaming spends of online gamer(s)		Market dominated by PCs and consoles Small market due to high cost of PCs and consoles	Social Media gaming Internet users introduced to online gaming Emergence of casual gaming Introduction of smartphones
Development Online gaming ecosystem including developers, publishers and service providers		Five prominent domestic companies[23] Almost all revenues from export Primary focus on console	~25 companies[24] MNCs begin to set-up Indian operations Increased focus on mobile gaming

Source: KPMG in India research and analysis of information available on key company websites and reports

Post 2010: Rise in consumption volumes. Monetisation to catch up

2010-2016:

Between 2010 and 2016, smartphones became the primary mode of internet usage, enabled by an increased internet penetration and volume of budget devices. This rise in internet and mobile volumes has contributed significantly to the evolution of online gaming consumption in India. However, the ARPU for gamer(s) remained at fractions of the developing and developed global counterparts

The development ecosystem has evolved in line with the exponential growth of consumption. During this period, the number of Indian gaming companies reached ~250[25] and started launching their own titles. A few of these games successfully featured among the top 10 downloaded and record grossing games[26], a list dominated by global companies so far. However, Investments in gaming companies continued to remain low.

In recent past, India has seen large in-roads of online entertainment with global online video companies entering the market. These companies have contributed significantly to the Indian consumption and spend behaviour. Consumers are steadily gaining confidence to adopt digital payments and online content for entertainment services. Increased trust and perceived value of online entertainment is likely to provide the necessary impetus to online gaming going forward.

Indian developers have seen an influx of investments and this is expected to improve further.[27] Motivated with the evolved consumption, latent potential, sufficient capital and skilled manpower, Indian developers are expected to focus on the local market. The focus in near term will continue to be on developing games for mobile devices.

INCUBATION	GROWTH
Market prepares for imminent growth underlined by immense volumes	Exponential growth of the market and eco-system
2010-2016	**The Future**

Mobile gaming dominates online gaming in India[28]	Payment propensity of online gamer(s) increases
Growth in smartphones and mobile internet users	Online entertainment improves share of entertainment consumption
App distribution stores become common usage	Mobile internet penetrates beyond NCCS A groups
Exponential growth in social media user base	
> 250 companies[29]	Indian gaming companies adopt global technologies
Indian companies present across the value chain	Innovative revenue models
Increased focus on India as the end market	Localization of content

Source:
[25] – How Gaming industry is shaping up in India, Sandeep Soni, Franchise India (www.franchiseindia.com), February 2015
*[26] – Mobile Gaming on the Rise in India, AppAnnie- NASSCOM, 2016*
[27] – Gaming start-ups catch investor eye as smartphone use goes up, LiveMint, Apr 2015; Reliance Entertainment plans to invest in 20 Indian gaming startups, Economictimes, Apr 2016
[28] – Indian Gaming Market review, NASSCOM Google Report, November 2015; KPMG in India analysis
[29] – How Gaming industry is shaping up in India, Sandeep Soni, Franchise India (www.franchiseindia.com), February 2015

Local companies are expanding to develop end-to-end games....

With the development of comprehensive local expertise and influx of fresh funds, role of local companies is evolving from being a service provider to end-to-end game developers. This trend is expected to become bigger in future; with companies developing enhanced content customized to local market preferences. These local theme and language based games are expected to positively impact the consumption patterns in near future.

Gamer(s)

Advertises through gaming platforms — **Advertiser / Advertising Platform**

Enables distribution and consumption of online games — **Internet Service Provider**

Advertiser / Advertising Platform

Internet Service Provider

Online Distributor
Distribution channel

Device OEMs
Mobile, PC and laptop manufacturers

Post-production SP
Sound recording, testing, special effects addition and hardware porting

Developer
Creates the concept, characters and story board. Decides on the game engine.
Programming / Coding, 3D asset building and more

Pre-producer

Investor / Publisher
Validates the concept, identifies the target market and invests capital

The gaming concept

Integrated Players
Publishers involved across the development cycle. They possess resource and capabilities to perform all activities in the value chain.

Co-publishers
Along with the publisher, co-publisher invests in development of a game and provides one or more services along the value chain

Ancillary Service Providers
Provide one or more services during development of a game, including testing, hardware porting, animation, etc.

Source: KPMG in India research and analysis of information available on key company websites and reports

....and adapting models to improve revenues

With increasing internet penetration, Indian online gaming market is seen as an opportunity with a large potential today. Developers across the world are expected to enter the booming Indian online gaming market. However, monetisation in the past has been a big challenge for developers. Currently, revenue models in the industry include:

Monetisation models

Paid by : Ecosystem   Paid by : Online gamer(s)

In-app advertisement	In-game product or brand placement	Incentive based advertisement	Purchase / pay-per-download	Freemium / upgrades	In-app purchases	Subscription
Banner advertisements based on Cost-per-Click (CPC) or Cost-per-Mille (CPM) metrics	Popular brands or products placed in the game-play	Virtual objects / game-play requisite or access to the game by watching an advertisement	Upfront charge for download or access to the game	Free download, but charge to get full access to characters, levels, equipment etc.	Gamer(s) pay to purchase 'virtual objects or currency'	Monthly or annual subscription for access to a package (virtual objects, extended access to the game or a combination)

Source: KPMG in India research and analysis of information available on key company websites and reports

In the past, the volumes and usage was low for online gaming. Hence, the industry was highly dependent on investments to drive the volumes.

In the last few years, volumes have seen a rapid growth but the market is dominated by casual gamer(s). Online gamer(s) with limited mobile payment options and low online entertainment spends have resulted in low monetisation levels.

Most developers are still dependent on the advertisers and publishers for monetisation. Today, online gaming industry has started to adapt to the market and is increasingly deriving revenues through 'In-app advertisement' and 'Incentive based advertisement'.

As the market grows in terms of volume and usage over the next five years, it is expected to move to a 'Freemium' model to recognize a better balance of revenue realization from the 'Ecosystem' and 'Online gamer(s)'. 'Freemium upgrades' and 'In-app purchases' are expected to see an improved growth in future.

Market analysis:
Monetisation models VS Consumer volumes and usage

Consumer Usage (High / Low)

Gamer led monetisation
Ecosystem continues to participate

Freemium –
Improved balance of gamer and ecosystem monetisation

Ecosystem led monetisation
Gamer access is free

Low   **Consumer Volumes**   High

Low   **Gamer monetisation**   High

Source: KPMG in India research and analysis

Understanding the Indian Gamer(s)

1. An average Indian online gamer

   a. is a below 24 year male

   b. is introduced to online gaming through their friends, family and peer group

   c. is engaged in gaming for stress relief and social interaction

2. Puzzle, Action and Adventure most preferred genres, across demographics and engagement levels

3. Male gamer(s) are concerned about data and memory consumption; Female gamer(s) seek regular update / upgrade

4. Mobile phones are the most preferred devices but, experienced gamer(s) tend to shift to larger screens

5. Mindshare and wallet share for online gaming follow similar patterns, a reflection of promising growth over time

6. Friends, family and peer group play a critical role in discovery and download of a new game

Gaming Motivators

Description	Market characteristic	Research output
Triggers for initiating online gaming	Friends are considered as a key trigger for initiating online gaming	Around 48 per cent of gamer(s)
Reasons for continuing to play online games	Stress relief/ social interaction are key reasons for continuing to play online games	More than 75 per cent of gamer(s)

Source: Nielsen, Primary Survey, Urban Online gamer(s), N=1807

Gaming Opportunities and Barriers

Description	Market Characteristics	Survey Findings
Source of awareness for a game	Word of mouth references, friends, family and peer group are the key sources of awareness for most games	More than 50 per cent of gamer(s)
Influencer for downloading a game	Friends, family and peer group are key motivators for starting to play a new game	More than 64 per cent of gamer(s)
Platforms for game-play/ procurement	Most downloads take place through app distribution platforms	More than 43 per cent of gamer(s)
Most preferred genres	Puzzle, Action and Adventure games	More than 29 per cent of gamer(s)
Challenges faced by gamer(s)	High data consumption, negative perception among peers/ family and deterioration in device performance are key challenges faced by gamer(s)	More than 36 per cent of gamer(s)
Barriers among Lapsers	Key inhibitors to gaming include high data consumption and deterioration in device performance	More than 21 per cent of lapsers
Potential motivators for online gaming (Non-gamer(s))	Low internet consuming games would be a key motivator for non-gamer(s) to initiate online gaming. New and exciting games could also assist in acquisition of a new gamer	More than 41 per cent of lapsers and non-gamer(s)
Developer awareness	High aided awareness of popular brands essentially due to favourable experience in the past. Success of a game driven more by popularity of game titles	

Source: Nielsen, Primary Survey, Urban Online gamer(s), N=1807; Urban Online Gamer Lapsers, N=593; Urban Internet using Non-gamer(s), N=601

Payment Motivators

Description	Market Characteristics	Survey Findings
Triggers for paying	Gamer(s) pay on account of high engagement and perception of paid games to be better than freemium games	More than 21 per cent of gamer(s)
Barriers to paying	Availability of free alternatives is a barrier to popularity of paid games. Large number of non-paying gamer(s) do not associate value with paid games	More than 25 per cent of gamer(s)

Source: Nielsen, Primary Survey, Urban Online Gamer(s), N=382; Urban online Non-Paying Gamer(s), N=403

Payment Opportunities

Description	Market Characteristics	Survey Findings
Gaming spends	Current paying gamer(s) spend on downloading and upgrading access in the games	More than 59 per cent of paying gamer(s)
Mode of Payment	Most payments are made through debit cards followed by internet banking	More than 24 per cent of paying gamer(s)
Propensity to pay in future	Most gamer(s) are willing to pay up to INR 200 per transaction for online gaming, going ahead	Around 35 per cent of gamer(s)
Gaming as entertainment spends	Over 80 per cent of payers consider spends on gaming as part of entertainment spends	Around 86 per cent of paying gamers(s)

Source: Nielsen, Primary Survey, Urban Online Gamer(s), N=1807; Urban Online Paying Gamer(s), n=382
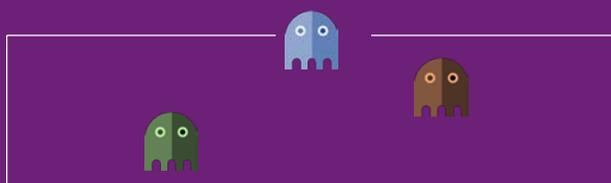
An average Indian online gamer...

...is a below 24 year male

Young internet users have a higher propensity to play online games. Nearly 60 per cent of urban mobile gamer(s) are below 24 years[30]. These gamer(s) are usually more exposed to technology and online platforms.

However, acceptance of online gaming is considerably high among higher age groups. Experienced professionals and home-makers have similar likelihood to play online games as the young population. Their representation among online gamer(s) could be a result of skewed internet across age groups in India.

Gender distribution of online gamer(s) is skewed with 83 per cent of online gamer(s) being male. This is mainly on account of uneven gender distribution among urban internet users with 80 per cent of users being male[31]. Thus gender distribution for online games, despite being skewed indicates similar propensity for online gaming across genders.

...is introduced to online gaming through their friends, family and peer group

Most common reason for internet users to begin online gaming is the influence of their peer group, directly or indirectly. For ~47 per cent of the gamer(s) surveyed by Nielsen; moment of truth for online gaming was watching peer group play or word-of-mouth reference [32]. Playing for recreation/ time-utilisation is the second most common reason for initiating online gaming.

...is engaged in gaming for stress relief and social interaction

The gamer(s) are engaged because they perceive online gaming to assist in stress relief and also provide social interaction opportunities in the virtual world.

An urban connected user is a smartphone users who uses internet on mobile on at least 10 days in a month.
Source: Nielsen, Smartphone Panel

Source:
[30] – Nielsen, Smartphone Panel, Urban Internet Connected Online Gamer(s), N=8136 and The Rising Connected Consumer in Rural India, BCG, August 2016
[31] - KPMG in India analysis, Nielsen Primary Survey, Urban Online Gamer(s), N=1807 and India's internet population is exploding but women are not logging in, scroll.in (www.scroll.in), Sep 2016
[32] - KPMG in India analysis, Nielsen Primary Survey, Urban Online Gamer(s), N=1807

Indian online gamer(s) across age groups

Source: Nielsen, Smartphone Panel, Urban Internet Connected Online gamer(s), N=8136

Indian online gamer(s) across genders

17%   **Online Gaming**   83%

Source: KPMG in India analysis; Nielsen, Smartphone Panel, Urban Internet Connected Online Gamer(s), N=8136

Top reasons for initiating online gaming

Source: Nielsen, Primary Survey, Urban Online Gamer(s) N=1807

**Top reasons for engagement levels in online gaming (per cent of online gamer(s))**

Source: Nielsen, Primary Survey, Urban Online Gamer(s) N=1807

A heavy gamer engages in gaming over a wide range of genres

[Spends an average of over 30 minutes per day on online gaming]
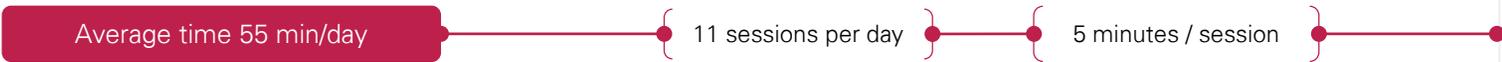
| Average time 55 min/day | 11 sessions per day | 5 minutes / session |

Source: Nielsen, Smartphone Panel, Urban Internet Connected Online Gamer(s), N=8136

Distribution of heavy gamer(s) across age groups

Per cent of heavy gamer(s)

66%	16%	5%	4%	8%
Below 24	25-30	31-35	36-40	40+

Age of online gamer(s) (years)
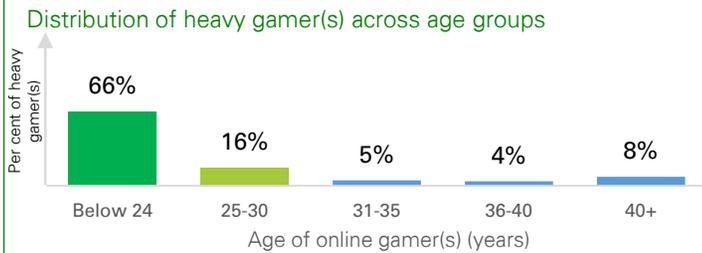
Source: Nielsen, Smartphone Panel, Urban Internet Connected Online Gamer(s), N=8136

More than a quarter of young (below 24 years) gamer(s) are heavy gamer(s)[33]. This age group has a higher share of heavy gamer(s) as compared to the other age groups, which are predominantly casual gamer(s).

Distribution of heavy gamer(s) across genders

87%   **13%**

Source: Nielsen, Smartphone Panel, Urban Internet Connected Online Gamer(s), N=8136

15 per cent of female gamer(s) are heavy gamer(s), as against nearly a quarter of male gamer(s)[34]. This lower propensity to be a heavy gamer, coupled with disparity in internet penetration leads to male dominance among heavy gamer(s)

Time spend - online gaming and other activities (per day)

Gaming and communication categories dominate the consumption
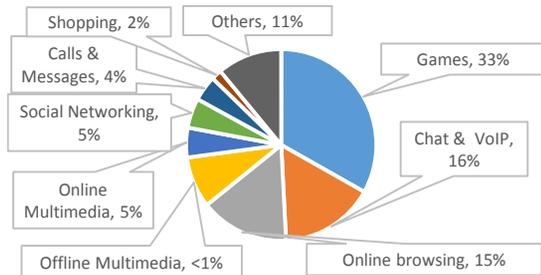
- Shopping, 2%
- Others, 11%
- Calls & Messages, 4%
- Social Networking, 5%
- Online Multimedia, 5%
- Offline Multimedia, <1%
- Games, 33%
- Chat & VoIP, 16%
- Online browsing, 15%

Source: Nielsen, Smartphone Panel, Urban Internet Connected Online Gamer(s), N=8136
Others include activities such as app store browsing, news, downloader, mobile coupons etc.

DATA CONSUMPTION
800 MB per month on online gaming[35]

Device preference

**88%** Mobile   **10%** PC/Laptop   **2%** Tablets
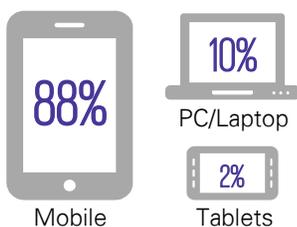
A significant population of heavy gamer(s) use mobile phones as the primary device to play online games. Higher tendency to recreate and utilize idle time through gaming drives this trend.

Source: Nielsen, Primary Survey, Urban Online Gamer(s), N=1807

Top mobile game genres played by Heavy Gamer(s)

54%	Puzzle
49%	Action
40%	Adventure
37%	Arcade
34%	Racing
31%	Sports
30%	Strategy
17%	Skill Based
12%	Chance Based
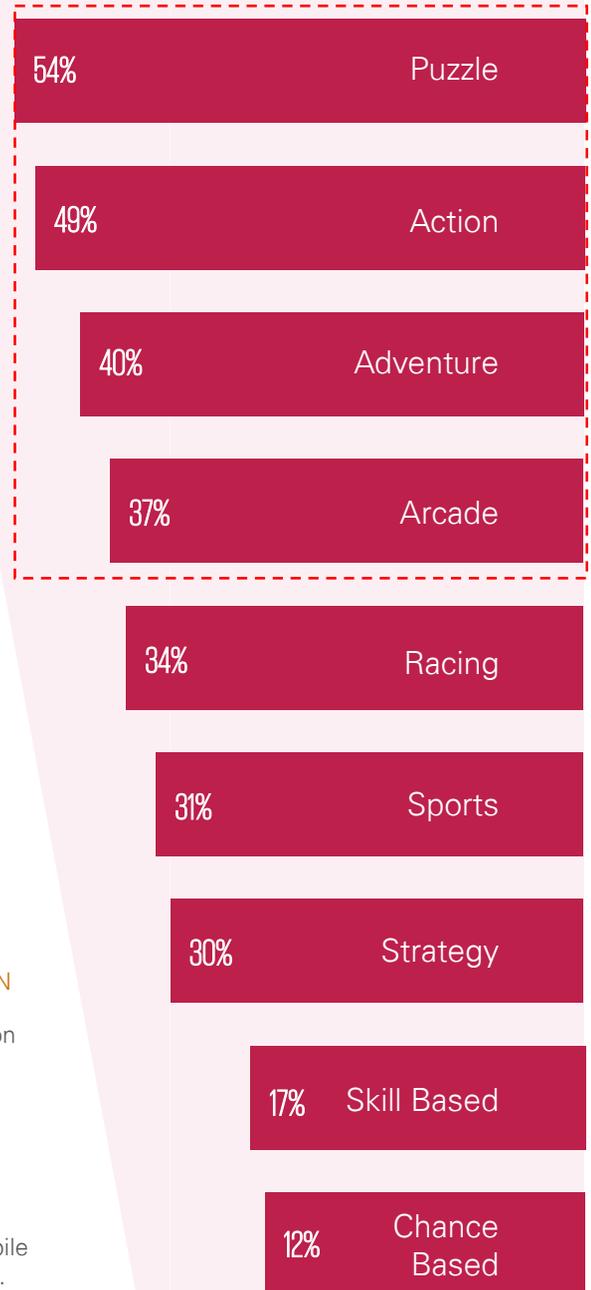
Source: Nielsen, Smartphone Panel, Urban Internet Connected Online Gamer(s), N=8136

Casual gamer(s) spend similar time across gaming, social networking and online multimedia

[Spends less than an average of 30 minutes per day on online gaming]

3.5 minutes / session | 2 sessions per day | **Average time ~7 min/day**

Source: Nielsen, Smartphone Panel, Urban Internet Connected Online Gamer(s), N=8136

Top mobile game genres played by Casual Gamer(s)

Genre	%
Puzzle	37%
Action	30%
Adventure	26%
Arcade	23%
Racing	22%
Sports	18%
Skill Based	14%
Strategy	12%
Chance Based	7%

Source: Nielsen, Smartphone Panel, Urban Internet Connected Online Gamer(s), N=8136

Distribution of casual gamer(s) across age groups

Per cent of casual gamer(s):
- Below 24: 55%
- 25-30: 24%
- 31-35: 9%
- 36-40: 5%
- 40+: 7%

Age of Online Gamer(s)(years)
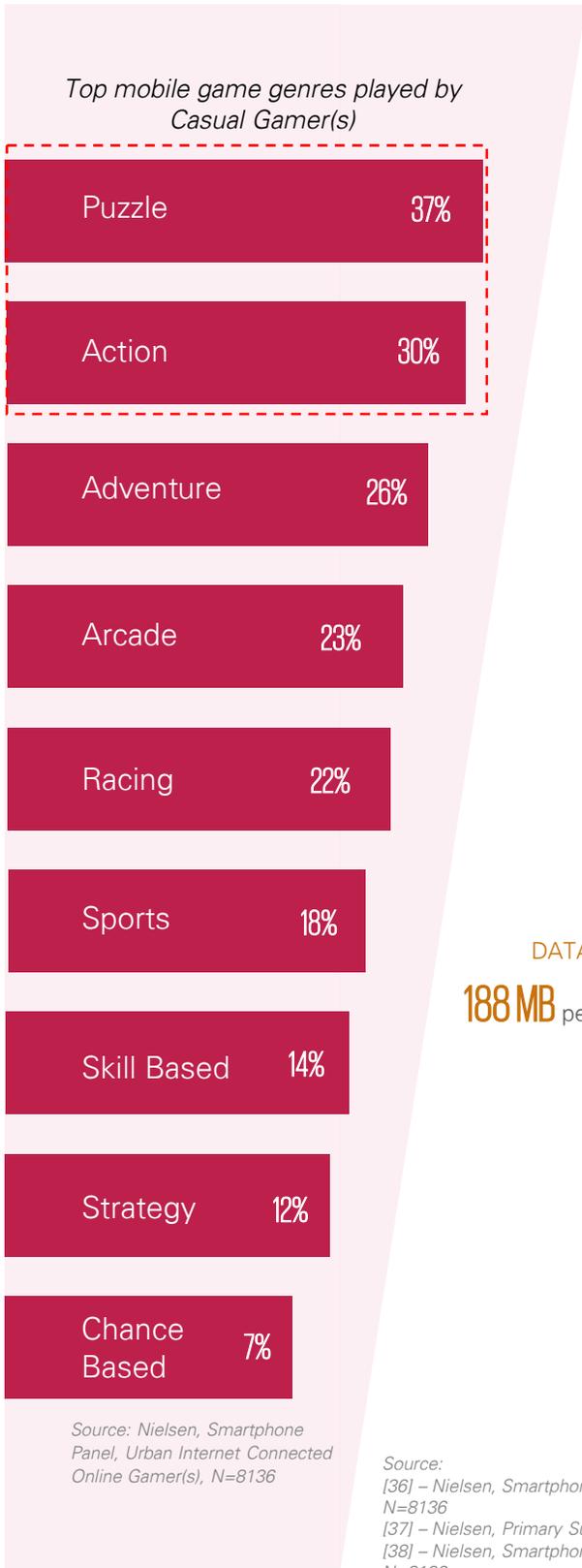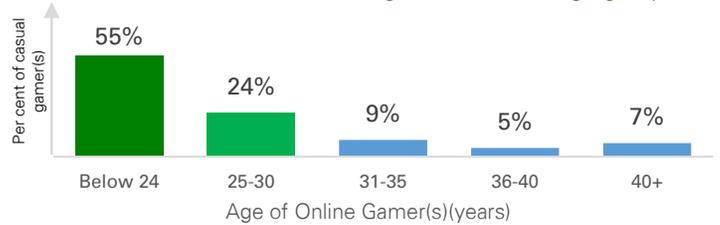
Source: Nielsen, Smartphone Panel, Urban Internet Connected Online Gamer(s), N=8136

Among casual gamer(s), up to 30 year gamer(s) form the largest share[36]. This large share is due to greater propensity among higher age groups to be casual gamer(s).

Distribution of casual gamer(s) across genders

80%   20%

Source: Nielsen, Smartphone Panel, Urban Internet Connected Online Gamer(s), N=8136

Distribution of casual gamer(s) among genders follows overall distribution of online gamer(s). 85 per cent of female gamer(s) are casual gamer(s), as against 75 per cent of male gamer(s)[37]

Time spend - online gaming and other activities (per day)

Communication and online browsing dominate the consumption
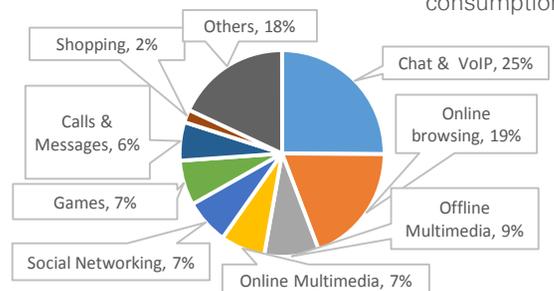
- Others, 18%
- Shopping, 2%
- Chat & VoIP, 25%
- Calls & Messages, 6%
- Online browsing, 19%
- Games, 7%
- Offline Multimedia, 9%
- Social Networking, 7%
- Online Multimedia, 7%

DATA CONSUMPTION
188 MB per month on online gaming[38]

Source: Nielsen, Smartphone Panel, Urban Internet Connected Online Gamer(s), N=8136
Others include activities such as app store browsing, news, downloader, mobile coupons etc.

Device preference

Although, mobile platforms lead among the preferred devices, large screen platforms get comparatively larger preference for casual gamer(s).

- 13% PC/Laptop
- 5% Tablets
- 82% Mobile
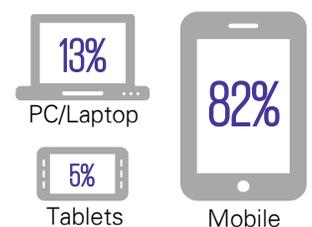
Source: Nielsen, Primary Survey, Urban Online Gamer(s), N=1807

Source:
[36] – Nielsen, Smartphone Panel, Urban Internet Connected Online Gamer(s), N=8136
[37] – Nielsen, Primary Survey, Urban Online Gamer(s), N=1807
[38] – Nielsen, Smartphone Panel, Urban Internet Connected Online Gamer(s), N=8136

Puzzle, Action and Adventure are most preferred genres across demographics and engagement levels

Heavy and casual gamer(s) show similar preferences for gaming genres. Although the respective reach of genres declines from heavy to casual gamer(s), relative preferences follow a similar pattern.

The top genre preferences are puzzle, action and adventure games. Genre preferences (defined as the product of 'percentage reach' and 'time spent') vary by gender. Female gamer(s) prefer 'Puzzle' significantly more than Male gamer(s), who prefer 'Action', 'Sports' and 'Social card games' considerably more than the female counterparts. 'Adventure' and 'Strategy' games find similar resonance across genders.

Female gamer(s) prefer Puzzle games while male gamer(s) prefer Action, Sports and Social card games relatively

Genre preference (Penetration X Time spent amongst users (min/day))

Genre (y-axis)

Penetration x Time spent amongst users (min/day)

Legend:
■ Female gamers
■ Male gamers

Genres (top to bottom): Puzzle, Action, Strategy, Sports, Adventure, Social card games
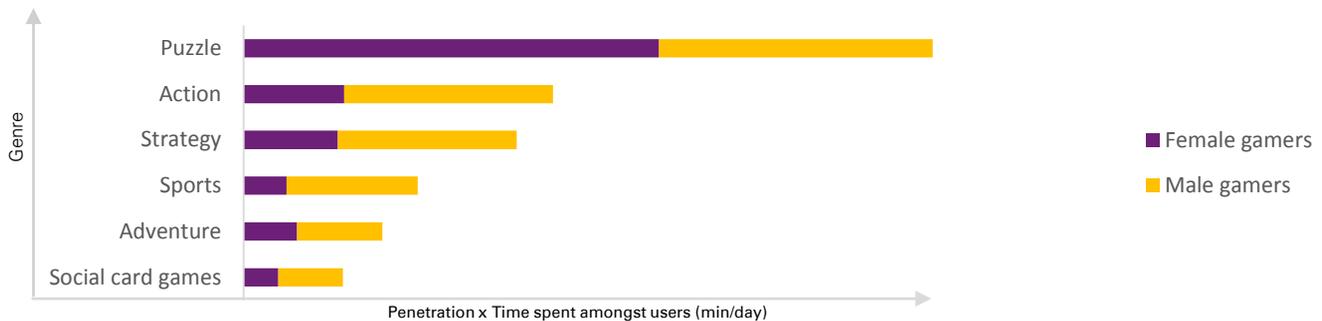
Source: Nielsen, Smartphone Panel, Urban Connected Online Gamer(s), N=8136

Genre experimentation across age groups

Gaming genres with more than 20% penetration (In decreasing order of reach)

below 24 years:
Action
Puzzle
Arcade
Racing
Adventure
Sports
Strategy

25-34 years:
Puzzle
Adventure
Action
Arcade
Racing

35-54 years:
Puzzle
Arcade
Adventure
Action

55+ years:
Puzzle
Adventure
Action

Average number of games on mobile phone:

below 24 years	25-34 years	35-54 years	55+ years
5	4	3	2

Source: Nielsen, Smartphone Panel, Urban Connected Online Gamer(s), N=8136

Genre preferences become limited with the age of a gamer

Source:
[39], [40]. [41] and [42] – Nielsen, Smartphone Panel, Urban Internet Connected Online Gamer(s), N=8136

Certain genres are popular only among select age groups:

- Action games are played by nearly half of below 24 year online gamer(s)[39]
- More than 50 per cent of gamer(s) in the age group of 35-54 years play puzzle games[40]
- Puzzle games are most preferred by 25+ year old online gamer(s)[41]
- Sports games are selectively preferred by below 24 year gamer(s)[42], nearly a quarter of who play sports games

Games from global developers influence India's gaming market

Top 3 games by downloads (in million) – Freemium and paid (Feb 2016 – Feb 2017)

Number of downloads (million)
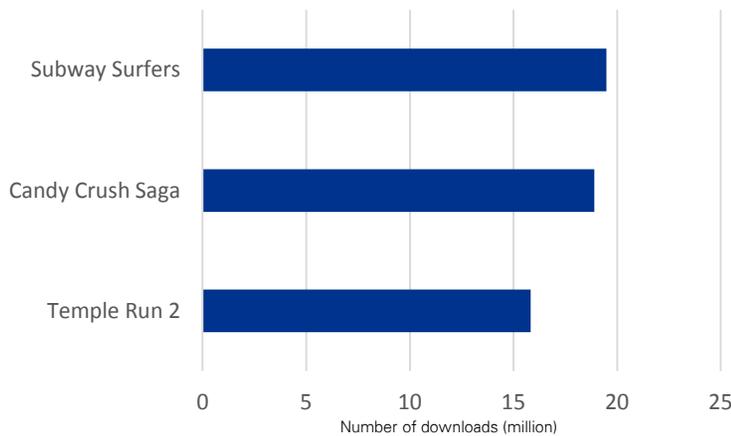
Source: AppAnnie Data, Feb 2016 – Feb 2017

Subway surfers, Candy crush saga and Temple run 2 dominate the downloads

Top 3 games by revenue (in USD million) – Freemium and paid (Feb 2016 – Feb 2017)

Revenue (USD million)
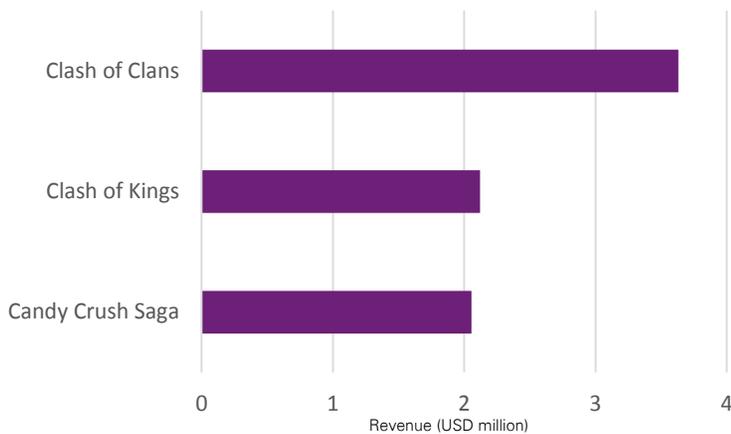
Source: AppAnnie Data, Feb 2016 – Feb 2017

Clash of clans, Clash of kings and Candy crush saga dominate the revenue

The top three games by download and revenue in India:

- Are all freemium games on app distribution platforms. This enforces the relevance of 'Freemium' model for value and volumes in the Indian market
- Have only one common game. Hence, volumes may not directly translate to high revenue in the Indian market

Further, a casual game play, enabled by free access, can drive volumes but the revenue is largely driven by engagement levels.

Male gamer(s) are concerned about data and memory consumption; Female gamer(s) seek regular update / upgrade

672
minutes per month

148

Engagement
(Average time spent on online games)

Gaming sessions per month

538
minutes per month

123

Preferred time-of-day and activities for online gaming by Gender (per cent of online gamer(s))

15% — **4-8 p.m.** — 29%

42% — **8-10 p.m.** — 40%

30% — **Post 10 p.m.** — 13%

Per cent of male gamer(s)

Post dinner
71%

During leisure time
63%

During small breaks
55%

During leisure time
59%

Per cent of female gamer(s)

Top reasons for dropping out (per cent of online gamer(s))

High data consumption **43%** — **21%** *Loss in interest*

Impact on device performance **35%** — **21%** *Peer dropouts from online gaming*

Source: Nielsen, Primary Survey, Urban Online Gamer(s), N=1807; Nielsen, Smartphone Panel, Urban Connected Online Gamer(s), N=8136

Male gamer(s) prefer to do gaming post dinner, and want low-space requirement as well as low-data consuming games

Female gamer(s) prefer games with social interaction and regular update / upgrade

Variance in gaming behaviour across genders have actionable implications for advertising and gaming companies.

1. A game targeting male population should involve complex game play with higher engagement levels but needs to ensure reduced data plan and device storage. A game targeting female population should be casual with a strong social construct and periodic update / upgrade. Data and storage concerns are not the most critical factors for female gamer(s).
2. Male gamer(s) indulge in online gaming during late hours, a period where impulsive shopping can be engaged through online gaming digital space and 'In-game incentives'. Female gamer(s) indulge in online gaming during 'Idle time' or 'Small breaks'. Hence, they can be engaged with targeted advertisements.

Mobile phones are the most preferred devices but, experienced gamer(s) tend to shift to larger screens

~90 per cent of online gamer(s) use smartphones and tablets [43].

Larger screen size in low-cost mobile devices, increased compatibility of games with mobile screens and mobility factor are key reasons for popularity of mobile phone gaming in India.

Primary device preference among online gamer(s) (2016)

11%
PC / Laptop

4%
Tablet

85%
Mobile phones

Source: Nielsen, Primary Survey, Urban Online Gamer(s), N=1807

Per cent of gamer(s) using Mobile and PC/Laptop at different gaming experience levels (in number of months)

	1-6 months	6-18 months	18+ months
MOBILE PHONES	85%	90%	75%
PC / LAPTOP	9%	6%	21%

A gamer with more than 18 months of gaming experience is **three times more likely** to play on PC/Laptop as compared a gamer with less than 18 months of gaming experience
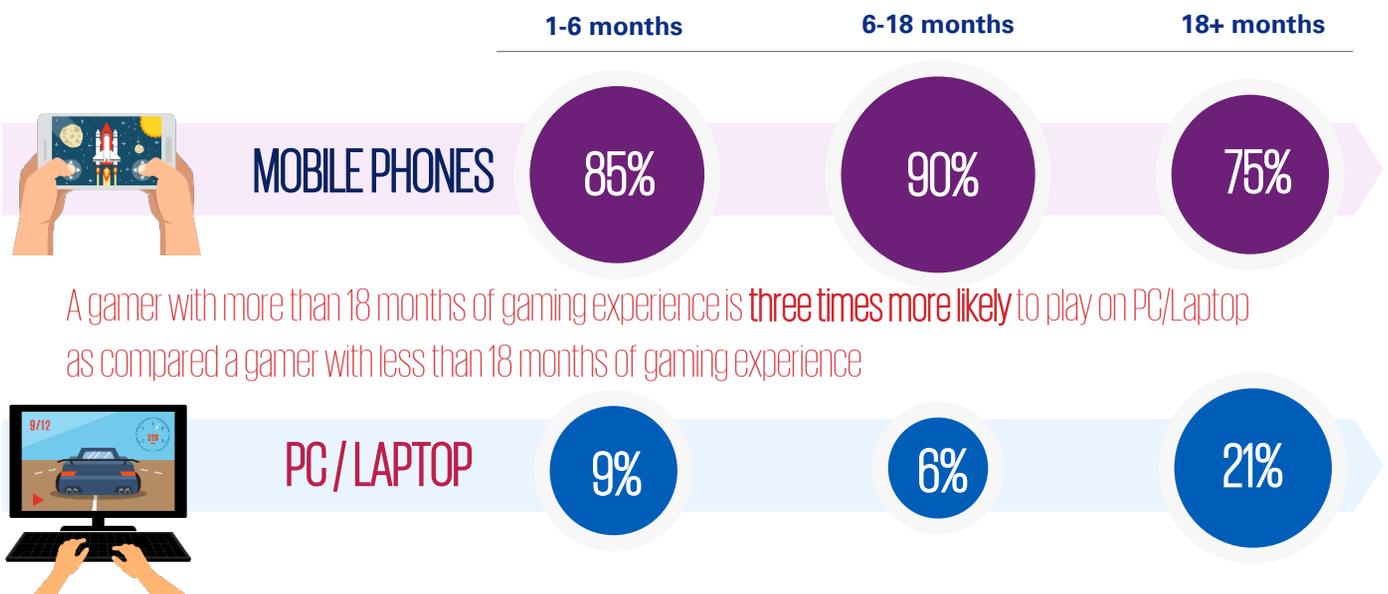
:Source Nielsen, Primary Survey, Urban Online Gamer(s), N=1807

With more gaming experience, the gamer(s) preferences evolve. An experienced gamer begins indulging in more complex gaming formats, which may require large screen devices such as PC / laptops. Another reason for this shift could be age of experienced gamer(s). Nearly half of online gamer(s) in 26+ years age group have been playing for more than 18 months as compared to the younger age groups[44].

Source:
[43] and [44] – Nielsen, Primary Survey, Urban Online Gamer(s), N=1807

Around two-thirds of online gamer(s) access games through budget and value phones; ~70 per cent download games through app distribution platforms

Nearly 75 per cent of gamer(s) use phones below INR 20,000[45]. These value or budget phones (<INR 20,000 phones) have limited processor and device storage configuration. Hence, games with limited processor requirements can enhance propensity to adopt online gaming in India.
For the remaining population, smartphones used by gamer(s) has equal distribution between the price range of INR 20,000-25,000 and greater than INR 25,000[46].

Increasing penetration of low-cost smartphones and mobile internet in urban markets has led to adoption of online gaming in India. 75 per cent of the market was dominated by entry-level or sub-INR 10,000 smartphones in calendar year 2015[47]. These gamer(s) prefer mobile phones for consuming entertainment on the move.

Average price range of mobile phone used by online gamer(s) (2016)

	< INR10k	INR10k–20k	INR 20k–25k	>INR 25k
Per cent of online gamer(s)	30%	45%	12%	13%
	Budget phones	Value phones		High end phones
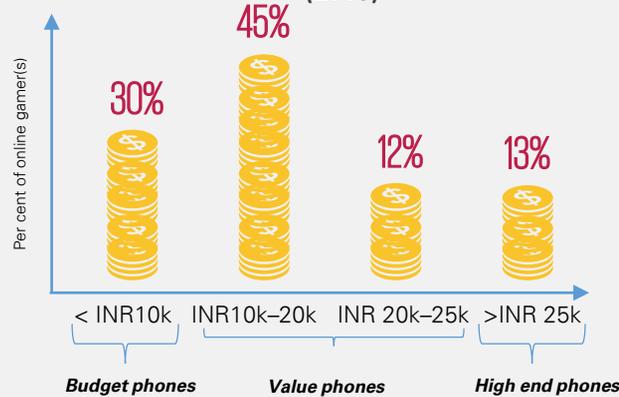
Source: Nielsen, Primary Survey, Urban Online Gamer(s), N=1781

App distribution platforms are the most preferred channel of procurement of games. Game-specific websites are the second most preferred channel.

A significant overlap in preferred channels existed amongst the respondents. This shows the usage of multiple channels for same game by the respondents. Hence, availability of a game across channels is important for improved adoption and engagement levels.

Channel for playing or downloading games

Channel	Per cent of online gamer(s)
App distribution platforms	69%
Mobile websites	46%
Social media	43%
Gaming websites on PC/desktop	30%
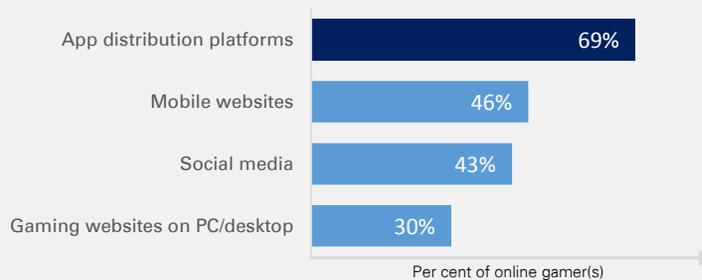
Source: Nielsen, Primary Survey, Urban Online Gamer(s), N=1807

Source:
[45] and [46] - Nielsen, Primary Survey, Urban Online Gamer(s), N=1781
[47] – Sub-Rs 10,000 smartphone segment in India to grow 44% in 2016, CMR report, Indian Express, June 2016

Mindshare and wallet share for online gaming follow similar patterns, a reflection of promising growth over time

Composition of Paying Gamer's wallet spend on entertainment

- Television
- Movies
- Live Events, Theme Parks, etc.
- Gaming parlors and others
- Online Music
- Online Video & TV
- **Online Gaming**

Offline entertainment

Online entertainment

Share of total entertainment

30%

11%

36% share of online entertainment

Source: Nielsen, Primary Survey, Urban Paying Online Gamer, N=382

Mind share of activities performed on smartphone by the urban connected smartphone gamer
(Time spend - online gaming and other activities (per day))

- Calls & Messages 6%
- Shopping 2%
- Social Networking 6%
- Others 16%
- Online Multimedia 6%
- Offline Multimedia 9%
- Chat & VoIP 22%
- **Online Games 15%**
- Online browsing 18%
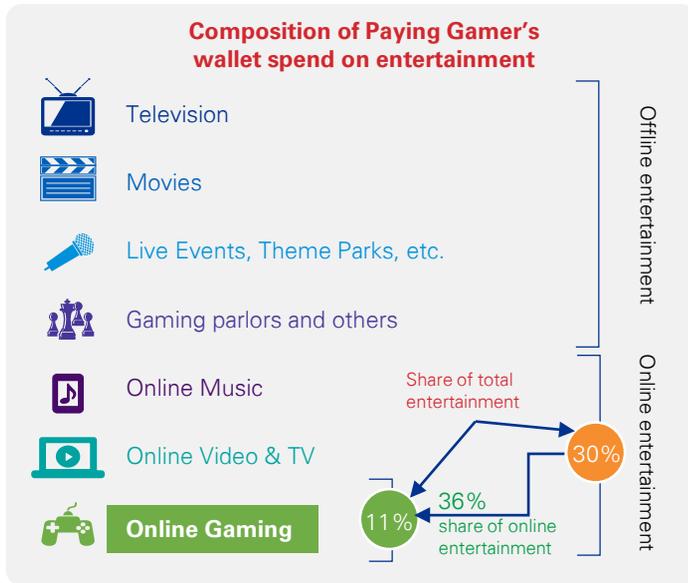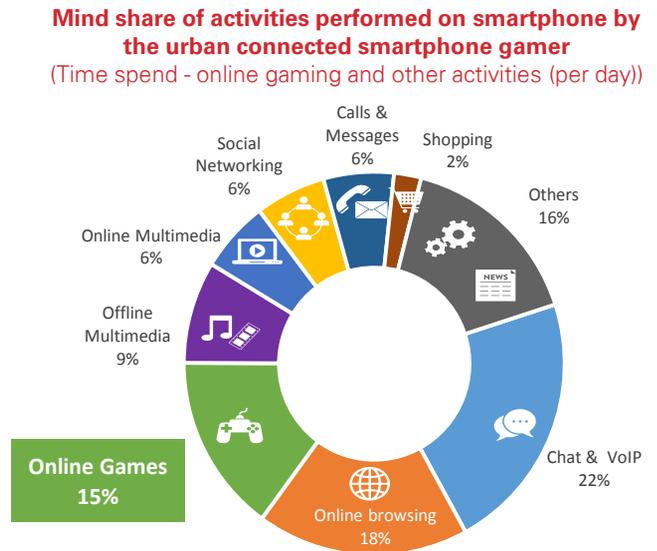
Source: Nielsen, Smartphone Panel, Urban Internet Connected Online Gamer(s), N=8136
Others include activities such as app store browsing, news, downloader, mobile coupons etc.

A paying online gamer spends more than one-third of their online entertainment expenditure on gaming

Indian gamer(s) do not typically pay high amounts for online games. An average spend on online gaming constitutes 11 per cent of total entertainment wallet[48], and one third of online entertainment wallet (which includes online video and TV, online music and online gaming) for an online gamer. The mind share, represented by the time spent on gaming, also has a similar share i.e. 15 per cent of total time spent on the smartphone per day.

Online gaming increases the total time spent on entertainment and does not replace any other avenue

An online gamer spends 46 per cent more time on online entertainment[49]. Online gaming forms one third of the time spent on mobile entertainment for gamer(s). Hence, gaming adds to the existing entertainment time spend of a gamer.
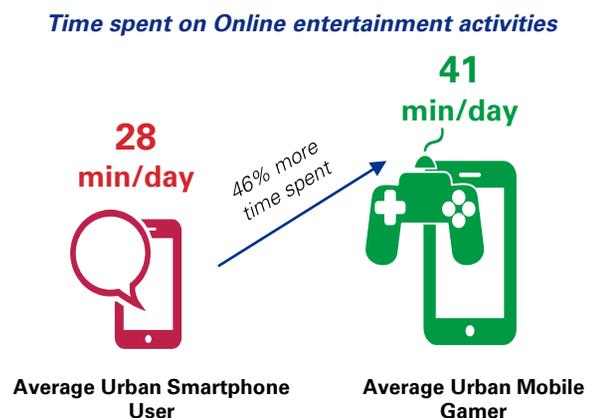
Time spent on Online entertainment activities

28 min/day

46% more time spent

41 min/day

Average Urban Smartphone User

Average Urban Mobile Gamer

Source: KPMG in India analysis; Nielsen, Smartphone Panel, Urban Connected Smartphone Users, N=10300

Source:
[48] - Nielsen, Primary Survey, Urban Paying Online Gamer, N=382
[49] - KPMG in India analysis; Nielsen, Smartphone Panel, Urban Connected Smartphone Users, N=10300

Availability of free substitutes and perception of high pricing are limiting the realization of revenues from consumers

A gamer's payment behaviour is a direct function of perceived value of the game. Online gaming currently holds low value for the gamer(s). This low value is attributed to the following reasons:

A	B	C	D	E
Availability of free substitutes	Perceived high pricing	Perceived as waste of money	Perceived to reduce competition in the game	Lack of comfort with online payment
30%	26%	25%	14%	12%+

per cent of non-paying online gamer(s)
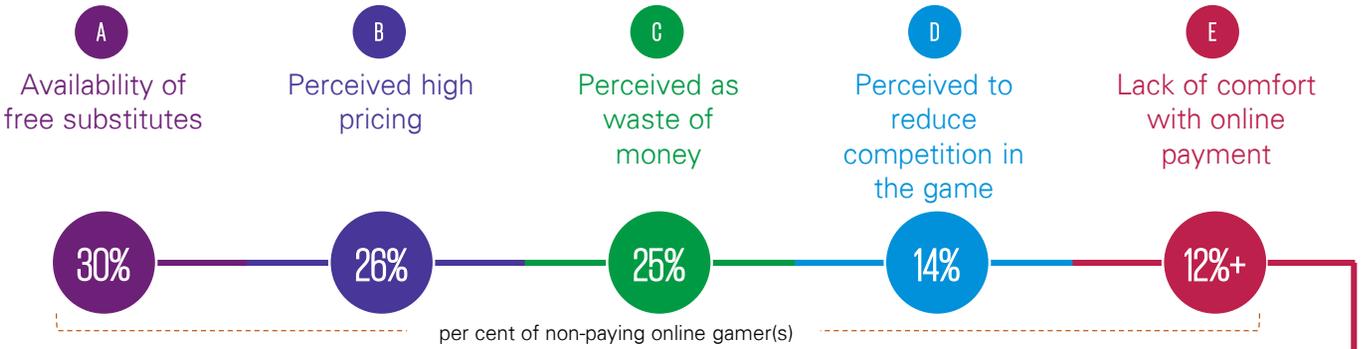
Source: Nielsen, Primary Survey, Urban Non-Paying Online Gamer(s), N=403

Students and homemakers prefer non banking payment modes such as payment wallets

Preferred payment mechanism across occupation groups (per cent of paying gamer(s))

Per cent of paying online gamer(s)

Occupation group	Credit card	Debit card	Internet banking	Online/mobile wallets	Carrier billing
Self-employed professional	4%	28%	32%	24%	
Supervisory level professional	41%	25%	30%	4%	
Below manager service professional	36%	27%	17%	14%	
Homemaker	11%	11%		87% / 21%	
Student	8%	23%	21%	32%	5%

■ Credit card ■ Debit card ■ Internet banking ■ Online/mobile wallets ■ Carrier billing

Source: Nielsen, Primary Survey, Urban Paying Online Gamer(s), N=382

Payment preferences are skewed heavily towards credit/ debit cards. Only one per cent of paying gamer(s) prefer carrier billing as a mode of payment, almost all of whom are students[50].

Different demographic groups prefer different payment modes. Students, for instance, prefer to use mobile wallets and carrier billing. Homemakers and self-employed gamer(s) show a strong preference for mobile wallets. Independent and senior professionals prefer credit cards.

Payment mechanism is a reflection of income group and level of financial independence. It is important for the gaming companies and distribution channels to offer a wide range of payment options in order to engage a larger spectrum of online gamer(s).

Enhancing awareness and perceived value of in-app purchases can help realize the economic potential of freemium games

Top 100 freemium games on account of large volumes generated 22 times revenues as compared to top 100 paid games [51]

Total Revenue and Downloads of top 100 games – freemium and paid (Feb 2016 – Feb 2017)

$ 19.65 million

$ 0.87 million

Revenue (USD million)

392.5 million downloads

231K downloads

Freemium games

Paid games

Freemium model

Pay-per-download

*Consumers pay for
In-app purchases
Up-gradation
Subscription*

*Consumers may pay for
In-app purchases*
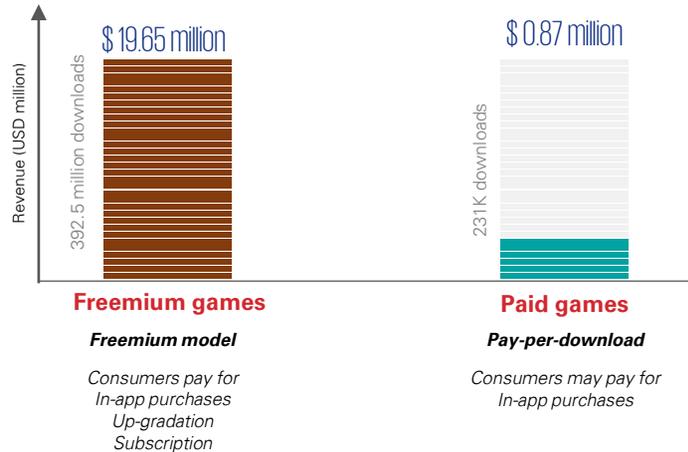
Source: AppAnnie Data, Feb 2016 – Feb 2017

Advertisers and publishers dominate the monetisation avenues for game developers today. High volumes translate to a larger user base which help in generating revenues from in-app purchases and higher brand awareness for the production house.

~26 per cent of the non-paying online gamer(s) believe that the 'Prices are not affordable'[52]. The in-app purchases offer flexibility to keep price points low in order to adapt to the price sensitive market.

Going forward, Indian developers should enhance the 'value' for Indian gamer(s) and adapt to the price points in order to take advantage of the volumes generated by freemium games.

Value for Indian online gamer(s)

Top 50 games by revenue – freemium and paid – Genre split (Feb 2016 – Feb 2017)

- Strategy
- Skill or chance based games
- Puzzle
- Action
- Sports
- Arcade
- Adventure
- Racing
- Others

0% 10% 20% 30% 40% 50%

■ Percentage share of top 50 games   ■ Percentage share of total revenue
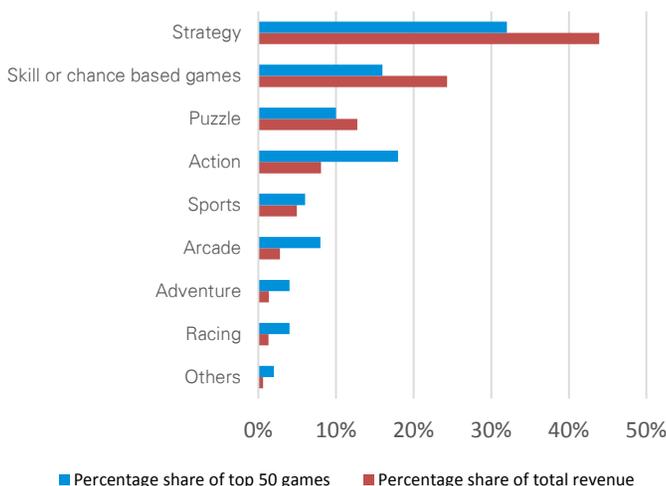
Source: AppAnnie Data, Feb 2016 – Feb 2017

Strategy, Puzzle and Skill or chance based games drive the revenue

'Top 50 games by revenue' on the app distribution platforms are freemium apps[53] . Amongst 'Top 50 games by revenue', Strategy, Puzzle and Skill or chance based games dominate the total revenue and average revenue per game[54]. These games hold significant 'paying value' for the Indian gamer and hence provide a significant opportunity for developers to realize better revenues in the Indian market.

Action games had high number of games in 'Top 50 games by revenue' but trailed due to lower than average revenue per game.

Source:
[51], [53] and [54] - AppAnnie Data, Feb 2016 – Feb 2017
[52] - Nielsen, Primary Survey, Urban Non-Paying Online Gamer(s), N=403

Friends, family and peer group play a critical role in discovery and download of a new game

Freemium games generate better economics for gaming companies in the Indian context. Price sensitive gamer(s) need instant gratification to consume, and are expected to pay for perceived value of their game. Establishing and engaging the gamer base entails a targeted design, marketing and improvement in the product across a gamer's lifecycle from discovery to play.

Per cent of Urban Online Gamer(s)

DISCOVERY

Top sources for game discovery

- Word of mouth reference — 53%
- Friends, family and peer group — 50%
- Advertisement (online/offline) — 40%

DOWNLOAD

Top reasons for selecting a new game

- Popularity of a Game — 68%
- Friends, family & peer group — 63%
- Game demo on app distribution platform / online videos — 55%

PLAY

Top reasons for engagement

- Recreation / stress relief — 40%
- Social interaction — 38%
- Sense of competition / achievement — 34%

DROPOUT

Top challenges perceived by gamer(s)

- High data consumption — 42%
- Negative perception among friends, family and peer group — 37%
- Impact on device performance — 36%

Word of mouth reference, friends, family and peer group are the key sources of awareness

Word-of-mouth reference and peer group are the most effective marketing tools for online games in India. Hence, the developers should engage the gaming population through targeted advertisements and easy in-app sharing features.

Popularity of a game, friends, family and peer group drive the selection of a new game

Gamer(s) are influenced by the popularity of a game, friends, family and peer group for selecting a new game. App demos and online videos are also a strong motivator. Hence, a comprehensive digital presence and targeted marketing are critical for easy adoption by gamer(s).

Stress relief and social interaction are key reasons for continuing

The main reason for gaming is recreation or stress relief during small breaks. This underlines the casual gaming nature in India. The Indian gamer(s) prefer shorter levels, easy-to-play games with simple controls. Multiplayer formats engage more than one-third of gamer(s) by providing an opportunity for social interaction and a sense of achievement over other gamer(s).

High data consumption and negative perception among friends, family and peer group are key problems faced by gamer(s)

Most gamer(s) in India play on low-end devices. They have constraints on data usage and phones' performance in terms of memory and battery consumption. A developer must create games with low data and processing power requirement.

Source: KPMG in India analysis; Nielsen, Primary Survey, Urban Online Gamer(s), N=1807

The global gaming market

1. India today:

    a. The consumer market, characterized by large volumes, is rising fast in terms of usage and monetisation

    b. The development side is characterized by highly skilled manpower and expertise

2. India by 2021 is expected to:

    a. Have value driving consumption and increased focus on local development

    b. Become the 'Preferred exporter' of gaming products and services to the 'developing economies'

Rapidly growing M&E industry in India, as compared to the peers

UNITED STATES OF AMERICA
■ 88% ■ 55% ■ 4% ■ $ 1,860

UNITED KINGDOM
■ 93% ■ 64% ■ 4% ■ $ 1,373

CHINA
■ 52% ■ 34% ■ 14% ■ $ 122

SOUTH KOREA
■ 92% ■ 53% ■ 8% ■ $ 1,026

JAPAN
■ 91% ■ 62% ■ 8% ■ $ 1,179

THAILAND
■ 43% ■ 31%* ■ 5% ■ $ 132

BRAZIL
■ 66% ■ 20% ■ 3% ■ $ 170

INDIA
■ 35% ■ 8% ■ 2% ■ $ 19

MALAYSIA
■ 69% ■ 56%* ■ 7% ■ $ 238

■ More than 60%
■ 50% - 60%
■ 40% - 50%
■ 30% - 40%

Youth population
Population below age 35 years

■ Internet Penetration of population (2016)

■ Digital Buyer penetration as % of population (2016)

■ Gaming share of Media & Entertainment sector (2015)

■ Per capita spend on Media & Entertainment (2015)

Source:
KPMG in India research and analysis, Department of Economic and Social Affairs (UN), SelectUSA (www.selectusa.gov), Newzoo (www.newzoo.com), CIMB ASEAN Research Institute, eMarketer and Internet Live Stats
* Extrapolated from 2013 numbers using internet users' growth rate

Young population, access to internet and entertainment seeking behaviour are key factors driving online gaming in a country. Study of these factors can explain the future potential of Indian gaming industry, which is likely to follow the developed gaming economies. Select developed gaming countries considered in the analysis (United States of America, United Kingdom and Japan) have high internet penetration (90 per cent of population)[55]. Per capita spends on media and entertainment is higher for these countries as compared to developing countries. For e.g. U.S. has a per capita media and entertainment spend of USD 1860, which is nearly 8x of that in Malaysia, nearly 11x of that in Brazil,15x of that in China, and 98x of that in India[56]. Despite having a modest share of media and entertainment spend, gaming has become a thriving sector in the developed economies. China is an exception, since gaming accounts for 14 per cent of media and entertainment revenues, as against 4 per cent in U.S. and U.K. and 8 per cent in Japan in 2015 [57]. This clearly implies that China is the largest gaming economy globally, surpassing U.S.

What establishes the developing economies as promising gaming markets of future is the fact that these countries have considerably younger population, which is likely to create a large market for the evolving gaming sector. Gaming industry in these countries could see an evolution in future.

India, with more than 60 per cent of population below the age of 35[58], makes it one of the largest potential market for online gaming in terms of volume. Low propensity to pay for entertainment, and gaming alike, is likely to improve with projected increase of ~65 per cent in disposable income by 2021[59] and digital payment penetration. Additionally, India has one of the lowest digital buyer penetration at eight per cent as compared to 56 per cent in Malaysia and 64 per cent in U.K.[60]. This is expected to improve in the future with digital India and demonetisation initiative undertaken by the Government of India.

Indian gaming market is expected to see improvement in the paying propensity and hence ARPU levels. India is at the cusp of growth of the online gaming industry.

Source:
[55] - Internet Live Stats (www.internetlivestats.com), April 2017
[56] – KPMG in India analysis; Global Entertainment & Media Outlook 2016-2020, PWC – Strategy & study, 2016 and Worldbank data
[57] – KPMG in India analysis; Global games market report premium, Newzoo (www.newzoo.com), 2016; Global Entertainment & Media Outlook 2016-2020, PWC -Strategy& study, 2016 and Worldbank data, 2017;
[58] – United Nations, Department of Economic and Social Affairs, Population Division (2015), June 2016
[59] – Ministry of statistics and programme implementation (MOSPI), TradingEconomics (www.tradingeconomics.com), April 2017
[60] – KPMG in India analysis; Worldwide retail ecommerce sales, eMarketer, August 2016; Internet Live Stats, (www.internetlivestats.com), April 2017; Lifting the barriers to E-commerce in ASEAN, ATKearney and CIMB Asean Research Institute, February 2015

Consumption versus development across select markets

	Consumption	Development
CHINA	▪ Largest gaming market with total revenue of USD 24.3 billion in 2016[61] ▪ 558.8 million gamer(s), 71 per cent of online population play games across devices[62] ▪ 36 per cent of gamer(s) pay for online games, considerably lesser than other developed gaming economies[63] ▪ An average paying gamer spends USD 122 per annum [64] ▪ Gaming accounts for 14 per cent of total media and entertainment spends[65], higher than in developed economies	▪ Accounts for 22 per cent of global investments in gaming[66] ▪ Local companies dominate the market with two Chinese companies producing the top 10 games[67] ▪ Difficult for foreign companies to enter due to strong regulatory framework
UNITED STATES OF AMERICA	▪ Second largest gaming market with total revenue of USD 23.5 billion in 2016[68] ▪ 178.8 million gamer(s), 61 per cent of online population play games across devices [69] ▪ High propensity to pay for online games, as nearly 60 per cent of online gamer(s) pay, spending an average USD 224 per annum [70] ▪ Gaming accounts for four per cent of total media and entertainment spends[71]	▪ Over 850 developers and publishers[72] ▪ Accounts for nearly 25 per cent of global gaming investments[73] ▪ Large gaming companies have global distribution channels
JAPAN	▪ Third largest gaming market with total revenues of USD 12.4 billion in 2016[74] ▪ 69.1 million gamer(s), 59 per cent of online population play games across devices [75] ▪ One of the highest paying gaming economies, as 61 per cent of online gamer(s) pay, spending USD 296 on average per annum[76] ▪ Gaming accounts for eight per cent of media and entertainment market[77]	▪ Over 125 developers and publishers[78] ▪ Accounts for three per cent of global gaming investments[79]
UNITED KINGDOM	▪ Sixth largest gaming market* with total revenues of USD 3.9 billion in 2016[80] ▪ 31.6 million gamer(s), 52 per cent of online population play games across devices [81] ▪ High propensity to pay as ~59 per cent of gamer(s) pay for online games, spending an average of USD 206 per annum [82] ▪ Gaming accounts for four per cent of media and entertainment market [83]	▪ 75 per cent of over 2000 developers and publishers focus on mobile games [84] ▪ Accounts for nearly four per cent of global gaming investments [85] ▪ Home to some of the largest gaming companies

South Korea and Germany are the fourth and fifth largest gaming markets respectively [86]

Source:

[61], [68], [74], [77], [80], [83] and [86] – KPMG in India analysis; Global games market report premium, Newzoo (www.newzoo.com), 2016; Global Entertainment & Media Outlook 2016-2020, PWC -Strategy& study, 2016

[62] – KPMG in India analysis; Game-Time: 5 Must knows about China's Mobile gaming market, Manya Koetse, What's on weibo (www.whatsonweibo.com), July 2016; Internet Live Stats (www.internetlivestats.com), April 2017

[63], [64], [65], [69], [70], [75], [76], [81] and [82] – Insights into gamers & millennials and the future of digital commerce, Newzoo (www. newzoo.com), 2016

[66], [73], [79] and [85] – KPMG in India analysis; Video Game Market Report, Woodside Capital Partners, Q4 2015

[67] – China's Mobile Games Market Is Growing Up, Forbes, Apr 2016

[71] – KPMG in India analysis; Media & Entertainment spotlight, SelectUSA (www.selectusa.gov), April 2017; Global games market report premium, Newzoo (www.newzoo.com), 2016

[72], [78] – Gamedevmap (www.gamedevmap.com), April 2017

[84] – The games industry in numbers, UKIE – Association of UK Interavtive Entertainment, March 2017

India is expected to move towards value driving consumption volumes and increased focus on local development by 2021

Online gaming analysis across consumption and development – select countries

Consumption: Maturity of consumption market, including the volumes and value, is analyzed based on penetration of online gaming, preference of gaming in the overall entertainment segment, target market size for online games and propensity to pay for online gaming and entertainment

Development: Maturity of skills and workforce, investments in the gaming sector and contribution of developers in fulfilling the local demand

Study of maturity across key gaming economies

Maturity of Gaming Development environment

Maturity of Gaming Consumer market

- India
- China
- USA
- Thailand
- Japan
- Brazil
- Malaysia
- UK
- South Korea
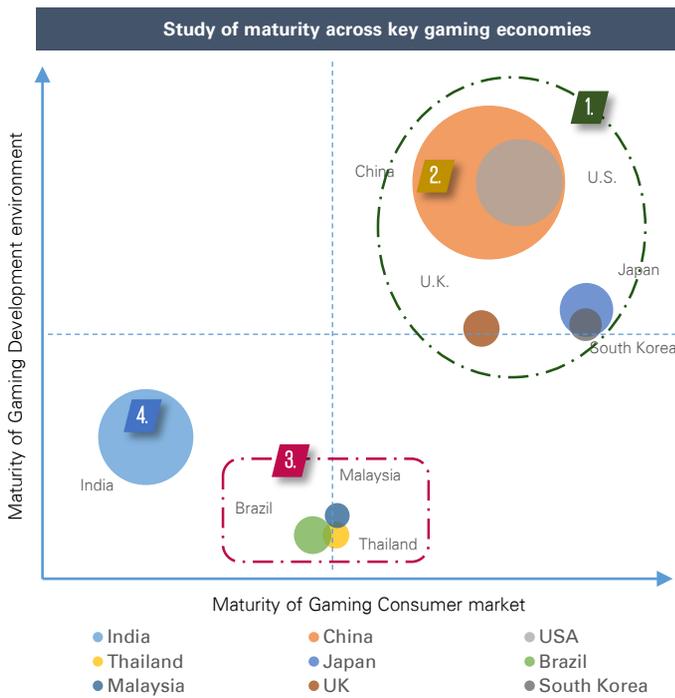
Bubble size represents market size (Volume) by number of Online Gamer(s)

Source: KPMG in India research and analysis and Newzoo (www..newzoo.com), 2016

1. The first cluster of **developed economies** have high levels for development and consumption. Though with small local volumes, these **economies also drive development in online gaming for the developing world.**

2. **China,** owing to **high consumption volumes** and **strong local development**, works as a self sustainable market.

3. The second cluster of **developing economies**, is characterized by **significant volumes**, **moderate consumption levels** and **very limited local development**.

4. The India story

The consumers market, characterized by large volumes, is rising fast in terms usage and monetization
The development side is characterized by highly skilled manpower and expertise

In the **future India** could:
- Move towards characteristics of 'Developed economies' with value driving consumption and local development
- Become the **'Preferred exporter'** of gaming products & services to the 'Developing economies'. Local expansion of development companies and relevance of content in developing economies could contribute to the exports.

Key factors defining Indian gaming maturity by 2021 (Projected)

	2016	2021P
Gaming Share of M&E [87]	2%	1.5x → 3%
Per Capita Spend in M&E[88] (USD)	19	1.9x → 35
Digital Buyer Penetration [89] (% of population)	8%	3.5x → 28%

	2016	2021P
Number of online gamer(s)[90] (million)	120	2.6x → 310
Number of developers[91]	250	1.4x → 350

- Consumption parameters
- Development parameters

The Future of online gaming in India

1. Improved age and gender parity in the online gaming population

2. Freemium games to create better economics for gaming companies

3. Convergence of stakeholders to drive adoption and usage of mobile internet

4. Emerging technologies to become a commercial reality in India

5. e-Sports to augment engagement levels in online gaming

6. Gamification to offer opportunities across business functions and sectors

7. Content customization for the 'Indian' taste: The Local brand

8. Enhanced customer lifecycle at every stage: Power of Data

1. Improved age and gender parity in the online gaming population

Age and gender wise per cent share of online gamer(s)
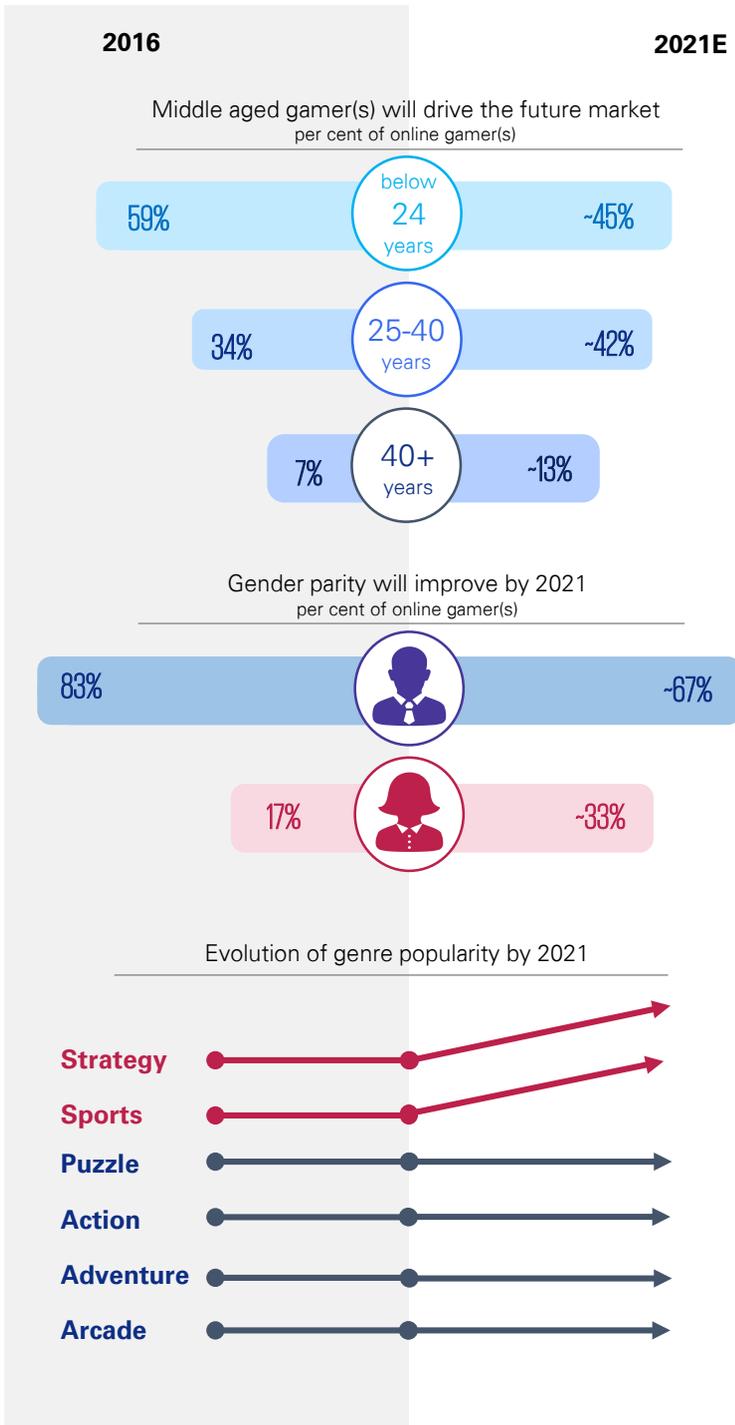
2016   **2021E**

Middle aged gamer(s) will drive the future market
per cent of online gamer(s)

	below 24 years	
59%		~45%

	25-40 years	
34%		~42%

	40+ years	
7%		~13%

Gender parity will improve by 2021
per cent of online gamer(s)

83%		~67%

17%		~33%

Evolution of genre popularity by 2021

Strategy
Sports
Puzzle
Action
Adventure
Arcade

Source: KPMG in India analysis; Nielsen, Smartphone Panel, Urban Internet Connected Online Gamer(s), N=8136

Online gaming is expected to witness a shift in the age composition of gamer(s).

Highest growth in gamer base is likely to be contributed by middle aged gamer(s) (Age 25-40 years). They are expected to constitute ~ 42 per cent of total base by 2021[92]. This shift could occur on account of:

• Large influx of 30 million engaged gamer(s) from age group of 20-24 to 25-30[93] years

• Large scale adoption of internet in this age group coupled with higher propensity to play online games

Already well penetrated younger population is expected to observe a moderate growth.

Considering similar likelihood among genders to play online games, distribution among gender could continue to follow internet penetration. Accordingly, ~33 per cent of online gamer(s) are expected to be women by 2021, growing at CAGR of ~35 per cent [94].

Gamer(s) below 40 years, across genders, are expected to be engaged gamer(s), with higher propensity to pay.

Riding on the demographic shift, strategy and sports games could become more popular among gamer(s). These popular games among young engaged gamer(s) are likely to witness popularity among higher age groups. Puzzle, action, adventure and arcade games are the top four games across all age, gender and engagement levels. These genres could continue to be popular for Indian gamer(s).

2. Freemium games to create better economics for gaming companies

Monetisation from online gamer(s)

Lead Payers
- *Keep initial game-play simple to enthuse gamer(s)*
- *Identify initial payers*
- *Identify what motivated them*

Volume → Excitement → Engagement

Freemium
Generate volume of gamer(s) by launching free-to-download or free-to-play games

Engage the payers
- *Social sharing of content*
- *Gamer analytics based incentives, lucky draws, difficulty alterations etc.*

Source: KPMG in India analysis; What you need to know to monetize a game in China, ONIIX, 2015; Different ways to monetize in China's mobile game market, Testbird, 2016

Solo games | Multiplayer games

Likelihood to pay in future for an engaging game (per cent of online gamer(s))

Will not pay
19% | 7%

Will pay up to INR 200
25% | 42%

Will pay up to INR 500
26% | 25%

Will pay more than to INR 500
15% | 14%

Top reasons for paying (per cent of paying gamer(s))

23% To remove ads | To stay in the game 21%
23% Affordable price | Engaging free trial 22%

Source: KPMG in India analysis; Nielsen, Primary Survey, Urban Online Gamer(s) (N=1807), Urban Paying Online Gamer(s) (N=382)

Source:
[95], [96], [97] and [98] – What you need to know to monetize a game in China, ONIIX, 2015
[99] – Which online payment methods are most favourable for gamer(s)?, About Payments, May 2016

India is a value seeking and price sensitive gaming market. Indian gamer(s) are similar to Chinese gamer(s) in terms of monetisation, who have evolved as freemium gamer(s) and continue to search for free alternatives[95]. Despite this, current ARPU in China is around USD 122 on account of one third of the gamer(s) paying for in-app purchases. Additionally, 29 per cent of these gamer(s) do not recall details of the purchase[96], indicating high engagement levels established by local gaming companies. Gamer(s) in China pay for advancing to new levels, purchasing virtual products, instant revival of life and privileged access to games[97]. Another popular driver for in-app purchase is utilisation of gacha mechanism based credit (a chance based concept to win desired results or virtual products). At critical levels of a game, gamer(s) are usually more likely to pay for gacha in anticipation of a reward / virtual products. This is gaining popularity in western markets alike[98].

Multiplayer gamer(s) exhibit significantly higher likelihood to pay for games in future. Amongst the paying multiplayer gamer(s), engagement was a key driver for in-app purchases. Developers can enhance engagement levels by:
1. Enabling social share of game-play
2. Involving peer group on same game to induce competitiveness
3. Using high interest inducing mechanisms, such as gacha
4. Customizing difficulty levels and chance based rewards

High engaging genres such as puzzle, action and strategy are well positioned to generate revenues from in-app purchases.
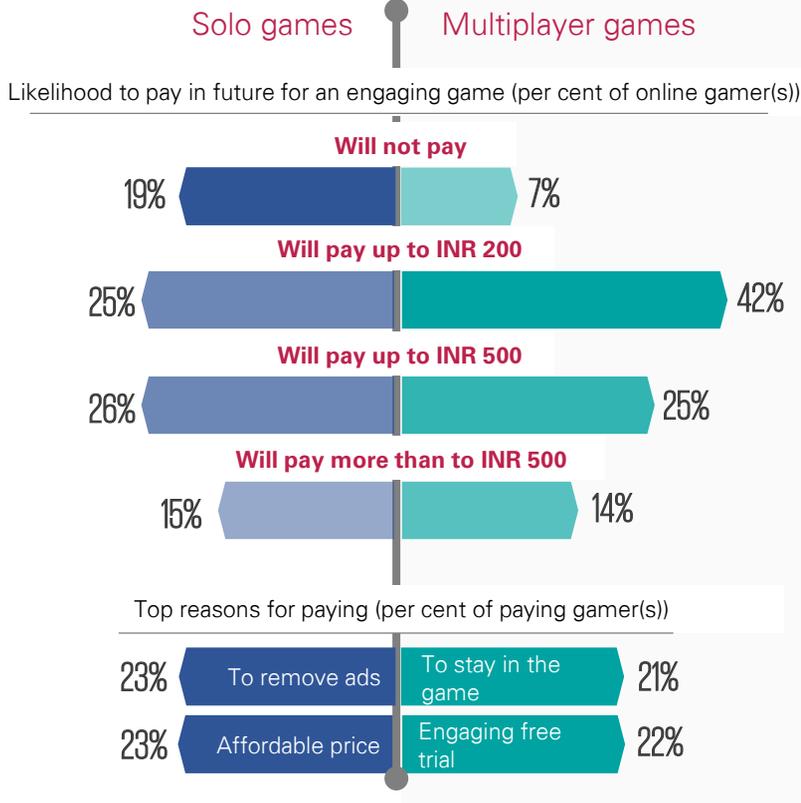
	HEAVY GAMERS	CASUAL GAMERS
	Engagement levels (min/month)	Engagement levels (min/month)
Puzzle	391	65
Action	248	41
Strategy	263	21

Source: Nielsen, Smartphone Panel, Urban Connected Online Gamer(s) (N=8136)

Finally, integration with new payment mechanism is essential for targeting young gamer(s). Payment solutions such as e-wallets and pre-paid cards are extremely popular in the leading gaming economies[99] and have already gained traction in India. Popularity of these payment solutions among the target market in India can be leveraged by developers. Enabling use of gift cards could be the next step towards easing the payment process.

3. Convergence of stakeholders to drive adoption and usage of mobile internet

India is projected to have ~470 million smartphone and ~735 million internet users[100] by 2021. Decreasing prices of smartphones is expected to cause a shift from feature phones to smartphones among the internet users. Connected smartphones are expected to become the apex of internet consumption in India.

Indian market, which currently has lower penetration (~30 per cent) of online gaming among the internet population, is expected to close the gap with the developed economies, where nearly 70 per cent internet population play online games[101]. In order to enable a high penetration, the ecosystem will have to work in harmony. Developments in online gaming and the ancillary ecosystem include:

DEVELOPERS & INVESTORS:
- Increasing number of developers
- End to end development by existing companies with global skills and experience
- Investment from large companies in online gaming ecosystem
- Recent success of locally developed games

VIDEO PLATFORMS:
- Rise of professional gamer channels on video aggregation portals
- E-sports, a feedback mechanism to co-drive online gaming and fast growing video universe

Hardware OEMs:
- Introduction of high configuration budget (sub- INR 3000) smartphones
- Tie-ups with developers for pre-installed games
- Experience enhancing technologies available at affordable rates. Ex:- VR for less than INR 500[102]

TELECOM SERVICE PROVIDERS:
- Large investments towards expanding reach and improving data speeds
- Reduction in mobile data charges
- Focus on data as a revenue stream
- Partnering with app distribution platforms to enable 'Carrier billing'

DISTRIBUTORS & PAYMENT SERVICE PROVIDERS:
- Reduction in minimum price on app distribution platforms
- Innovative online payment solutions including 'Gift Cards'

The next five years will see:
- Developers launching games with improved quality and graphics
- Enhancement of gaming experience through videos
- OEMs launching affordable devices for gaming
- Telecom service providers providing affordable data network
- Distributors enabling cost effective channels and enhanced monetisation

These improvements will enable a symbiotic relationship amongst the ecosystem and ancillary service providers for a comprehensive growth of online gaming in India.

Source:
[100] – Indian Languages – Defining India's Internet, A KPMG in India – Google report, April 2017
[101] – Global Games Market Report, Newzoo (www..newzoo.com), 2016
[102] – Best VR Headsets in India, TechZene (www.techzene.com), January 2017

4. Emerging technologies to become a commercial reality in India

Technological convergence involves integration of devices used by 'mobile internet' users and the information processed by them[103]. This integration will be driven by a rapid adoption of upcoming technologies in the gaming ecosystem.

Virtual reality (VR):

- Increase in global investments and integration of content development
- Affordable and convenient availability of VR enabled headsets
- Ability to enhance gaming experience, for example: VR in games such as Poker and Teen Patti

Augmented Reality (AR):

- Proven demand: India ranked 4th in a famous global games' APK downloads[104]
- Compatibility with VR to enhance experience and enable immersive gaming
- Opportunity to launch local 'mythical' theme games with real world integration

Artificial Intelligence:

- Application of Artificial intelligence in:
  - **Development:** Tools like machine learning to improve developer capability, coding efficiency and content quality
  - **Consumption:** 'Chatbots' and 'digital assistants' will provide 'context aware thinking' to online gaming in addition to sensory awareness [105]

Modular Technology:

- Technology blocks to build a customized device for unique use cases including online gaming
- Diverse capabilities including enhanced processing power for high end games, refined controls through sensors and multiple screens for MMO games

Cloud based architecture:

- With limited capital and low monetisation in Indian online gaming, cloud based architecture could provide:
  - Storage
  - Big data analytics

customizable in terms of scale and capacity for individual requirements. This will be available at affordable rates and high speeds[106]

These technological advancements could lead to enhanced experience and quality content delivery. India is a developing market with limited investments in local mobile gaming development so far. Hence, affordability and scalability are expected to be the key drivers in making these technological advancements a commercial reality in future.

TECHNOLOGY

Source:
[103] - Mobile Gaming in Asia: Politics, Culture and Emerging Technologies, Springer, July 2016
[104] - India Is Ranked 4th In Pokemon Go APK Downloads, The Huffington Post
(http://www.huffingtonpost.in), July 2016
[105] - 10 Trends Shaping Mobile Development in 2017, ADTMAG (www.adtmag.com), December 2016
[106] - Gambling on the Cloud: How Big Data is Changing the Gaming Industry, Gidon Ben-Zvi, SQREAM Technologies (www.sqream.com), March 2016

5. e-Sports to augment engagement levels in online gaming

Self-fulfilling system of eSports

eSPORTS
will propel engagement levels of online gamer(s)

Online gaming in eSports

Mobile gaming becomes mainstream in terms of engagement

Initial earning opportunity for Professionals

Professional Gamer(s) thrive

Engagement of casual gamer(s) increases

Content creation

Training Coaching Consulting

Professionals will generate opportunities for learning

- Heavy & Casual gamer(s) consume content
- Consider pro-gaming as a career option

Income Opportunities for Professional Gamer(s)

Tournament prize money

Salary from professional teams

Training / consulting

Content creation

Source: KPMG in India analysis; How To Make Bank As A Pro Gamer, TechCrunch, Sep 2015; How the growing tribe of e-sports players in India are making it their side careers, Economic Times, Jul 2016

Source:
[107] KPMG-FICCI Media and Entertainment Report, 2017
[108] Nazara Games invests crores to set up eSports gaming league, Economic Times, Feb 2017
[109] Ronnie Screwvala to launch eSports league in India, Economic Times, Jan 2017
[110] How To Make Bank As A Pro Gamer, TechCrunch, Sep 2015; How the growing tribe of e-sports players in India are making it their side careers, Economic Times, Jul 2016

eSports, currently in nascent stages in India, has a promising potential going forward. In the recent past, leagues such as ESL India Premiership League and Indian Gaming League had a successful stint in India[107]. For FY2018, leading mobile gaming company, A leading game developer, has announced an eSports tournament committing USD 20 million for the event[108]. A leading media group, has committed USD 12-15 million for organizing Ucypher, an eSports tournament which will also feature one dedicated competition of mobile gaming[109]. Inclusion of mobile gaming in traditional LAN based gaming tournament augurs well for India's online gaming industry.

Professional online gamer(s) will use eSports as a platform to showcase their skills, earn and propel the feedback loop to enhance online gaming in future. This content when consumed by casual gamer(s), will further enhance their engagement levels, leading to shift towards professional gamer(s).

Select opportunities for a professional online gamer to earn will include[110]:

1. Prize money from eSports tournaments/ winnings from games

2. Salaries from professional teams in eSports tournaments

3. Content creation on video sharing platforms including coverage and reviews on tournaments / events

4. Training aspirational gamer(s)

Popularity of gaming content will lead to an increase in content creators, as witnessed by digital entertainment industry in India. This symbiotic existence of content and gaming is expected to add thrust to the gaming industry.

6. Gamification to offer opportunities across business functions and sectors

Potential use-cases of Gamification

Education
- Real world scenarios/ applications of concepts
- Simulation based professional/ higher education
- Application oriented fun-games
- AR based learning for children

Sales
- Arcade game based promotion campaigns
- Competition based salesforce tool

Marketing
- Brand-specific game
- Extension of advertisement story on mobile games
- Offline-to-online customer engagement

HR
- Incentive-based learning & development
- Quiz / trivia / crowd-sourcing based employee engagement

Others
- Crowdsourcing based product design
- Simulations in healthcare
- AR based travel & tourism promotions

Gamification (application of gaming mechanisms in non-game situations) is used as a business tool to enhance operations and increase customer / employee engagement levels[111]. The concept has been gradually merging with enterprise technology solutions and tools such as CRM.

As of today, less than 10 per cent of Indian corporates are using gamification actively[112]. However, several successful case studies have established the promise of this concept in India:

1. E-Commerce introduced games such as spin a wheel, bid-price and scratch cards to engage with the customers[113].

2. Technology companies are engaging with new recruits using interactive and incentive based learning[114].

3. A leading online education portal launched an application combining games, simulation and videos to train children[115].

Globally, there are numerous cases proving the success of gamification.

In the Indian gaming context, gamification offers a unique diversification and portfolio expansion opportunity to the gaming companies. A key to leveraging this opportunity will be alliances and partnerships. Gaming companies can extend their product portfolio to include gamification of popular local content and design customized solutions to suit business requirements.

Sources:
KPMG in India analysis
[111] Introduction to Gamification, Association for Project Management, 2014
[112] Gamifying Corporate India, Lubna Kably, mxmindia.com (www.mxmindia.com), April 2014
[113] Gamification in eCommerce: The smartest way to earn your customer, Feb 2013; Six interesting examples of gamification in ecommerce, Econsultancy, Jan 2013
[114] The Unquestionable Role Of Gamification In Recruitment, The CareerMuse, April 2016; Gamification is serious business, The Hindu Businessline, May 2013
[115] BYJU's focuses on gamification to make math fun for class 4 & 5 students, The Education Post, Feb 2017; 4 Innovative Companies That Gamified eLearning, eLearning Industry, Jan 2015; Gamification: A Better Way of Reaching Online Learners, SHIFT, Jan 2015

7. Content customization for the 'Indian' taste: The Local brand

Online gaming will be redefined by digitization of traditional Indian games. This concept has been explored by Indian game developers, who are building games in local languages and themes.

Relative success of local vs international content has been observed in the adjacent entertainment business. Highest grossing 'Bollywood' movie in 2016 earned around USD 55-60 million [116] while the highest grossing 'Hollywood' movie, dubbed in regional languages, earned around USD 25-30 million [117]. Further, international video streaming platforms are considering to acquire local content and establish relevance in the Indian market. Hence, despite of an increased traction for international content and graphics, Indian loyalty is towards the local content.

The opportunity extended by local content can be further augmented by adapting to local languages. This can help in exploring the latent potential offered by ~230 million Indian language internet users in 2016 (projected to become ~540 million in 2021 [118]).

Acknowledging the Indian preferences, local developers and publishers are creating a niche by virtue of unique locally themed offerings. Online introduction of popular traditional games like 'Rummy' and 'Teen Patti', connects the common man to traditional social behaviour and habits.

Localization concept can be extended to build on local entertainment brands and succeed on account of a fan base or nostalgia effect among the Indian population. The recent viral success of a popular AR based game was primarily based on an effective engagement of a fan base by bringing together the franchise theme and mobile gaming realities. A similar model of mobile games based on popular brands has realized success in India. A few examples include:

- A top grossing movie based game reached the first position in 'Top Freemium Games' on one of the leading app distribution stores within two days of release[119]. It witnessed ~ 200,000 installations within first 24 hours[120].
- A popular kids brand valued at USD 45 million, started from an initial investment of ~USD 112,000[121]. This success saw resonance when the game was launched on smartphones[122].

Indian online gaming market is expected to witness a re-creation of 'Traditional' brands and introduction of 'entertainment brands'. This model has already witnessed a proof of concept in the global market. A leading global movie production house realized a revenue of USD 1.5 billion in 2015[123] by monetizing existing popular brands through game development and licensing.

The next phase of Indian online gaming will comprise of an ecosystem of engaged gamer(s) and enthusiastic designers, investments empowered developers and marketers working together to make India a global success through locally themed games. A long term success will be based on fan validated themes, excellence in graphics and adoption to upcoming innovations in the smartphones.

Localization – Easy target:
Transform traditional social Indian games to digital for the masses

Build on 'Brand' or 'Nostalgia':
Monetisation of existing brands in the adjacent entertainment universe

Source:
[116] – Top 10 highest grossing Bollywood movies of 2016, Gaurav, ilubilu (www.ilubilu.com), February 2017
[117] – 15 Top grossing Hollywood movies in India, Movies Graph (www.moviesgraph.com), July 2016
[118] – Indian Languages – Defining India's Internet, KPMG in India and Google, April 2017
[119] and [120] – 'Sultan – The game' rises to the top among free games on Google Play
[121] – How Chhota Bheem has scaled upon brand licensing?, License India (www.licenseindia.com), January 2017
[122] – 'Chhota Bheem' Top five Android Gaming in the market, India Wires, March 2013
[123] – Low Theatrical Revenues Pull Down Warner Bros. Revenue, Market Realist, February 2016

8. Enhanced customer lifecycle at every stage : Power of Data

The focus of online gaming ecosystem so far has been on the product, including content, themes, graphics etc. During these early stages of development, the ecosystem has overlooked the supplementary services and support network. The future of Indian online gaming has a strong promise of an enhanced value chain and ecosystem enabled by technology across a gamer lifecycle. A few examples include:
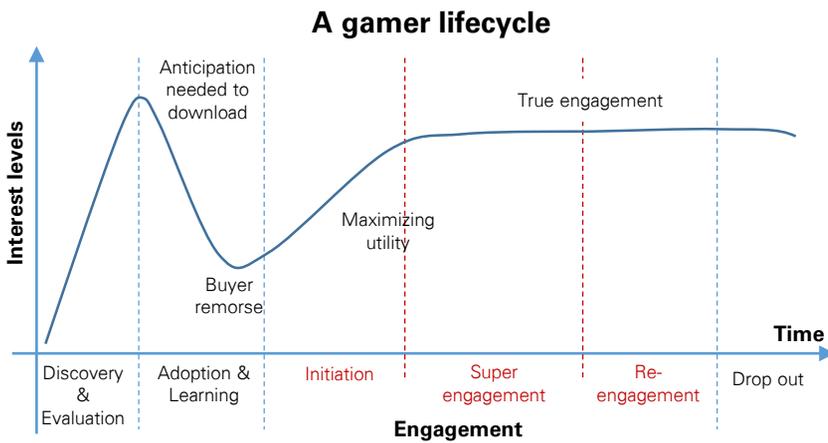
A gamer lifecycle

Source: Analytics & the player lifecycle, Oscar Clark, Unit Blog (blogs.unity3d.com), May 2016

- **Discovery and evaluation:**
  - Marketing : With influx of a gaming base, comprehensive data capture and smarter technologies, the effectiveness and relevance of online marketing will improve
  - Transparency and credibility : App distribution platforms are poised to facilitate informed decision making by providing access to description, developer history, demos, videos, reviews and online community to customers
- **Adoption and learning:**
  - Payment and customer support : Payment technologies customized for Indian market and dedicated customer support will be a key for distributors and developers to improve volumes (downloads) and value (payments)
  - Learning center : Similar to developed gaming markets, video tutorials and learning centers will see in-roads in India. Games involving high stakes and investment will lead the way in adoption of learning centers.
- **Engagement:**
  - Real time tracking : In game data analytics will play a large role in enhancing the customer experience and in-game monetisation
  - Social capital : Online games will integrate with chat applications to enhance perceived value of game-play
- **Drop out:**
  - Feedback and marketing : Recognition of the lapsed user base through feedback surveys and re-activation through customized marketing of new games will contribute to the adoption of online gaming.

Smart marketing

Transparent app distribution platforms

Payment and Customer support

Learning center

Game-play tracking

Social capital

Feedback

Annexure 1 : Market size forecast methodology

Methodology

1. Market revenue estimation: The volume estimate for 2016 is based on number of internet users in India, smartphone user base, penetration of online gamer(s) and traffic across major distribution platforms. The prediction of volume for 2021 is based on standards of comparable countries, projected rise in internet penetration and growth of smartphone user base in India. Revenue in Indian market for 2016 is based on per cent of paying gamer(s) and ARPU for the paying base across key distribution platforms. The estimates were further triangulated through reported financials of key players across major sub-segments of the Indian online gaming market. The 2021 market revenues have been projected based on the expected rise in ARPU enabled by projected rise in disposable income and consumer spending along with change in per cent of paying gamer(s).

2. Global comparative analysis: Top gaming economies across geographical regions were covered including U.S. from North America, Brazil from South America, U.K. from U.K. & Europe, Malaysia & Thailand from South East Asia and Japan & China from East Asia. The select economies were studied for consumer behavior, market characteristics, industry structure and stage of development to support projections for the Indian market.

Sources

1. Primary research
   a. Discussion with industry experts and key players
   b. Nielsen smartphone panel and survey

2. Secondary research
   a. Company reports
   b. Industry reports
   c. Industry journals and magazines
   d. Company press releases
   e. Global databases
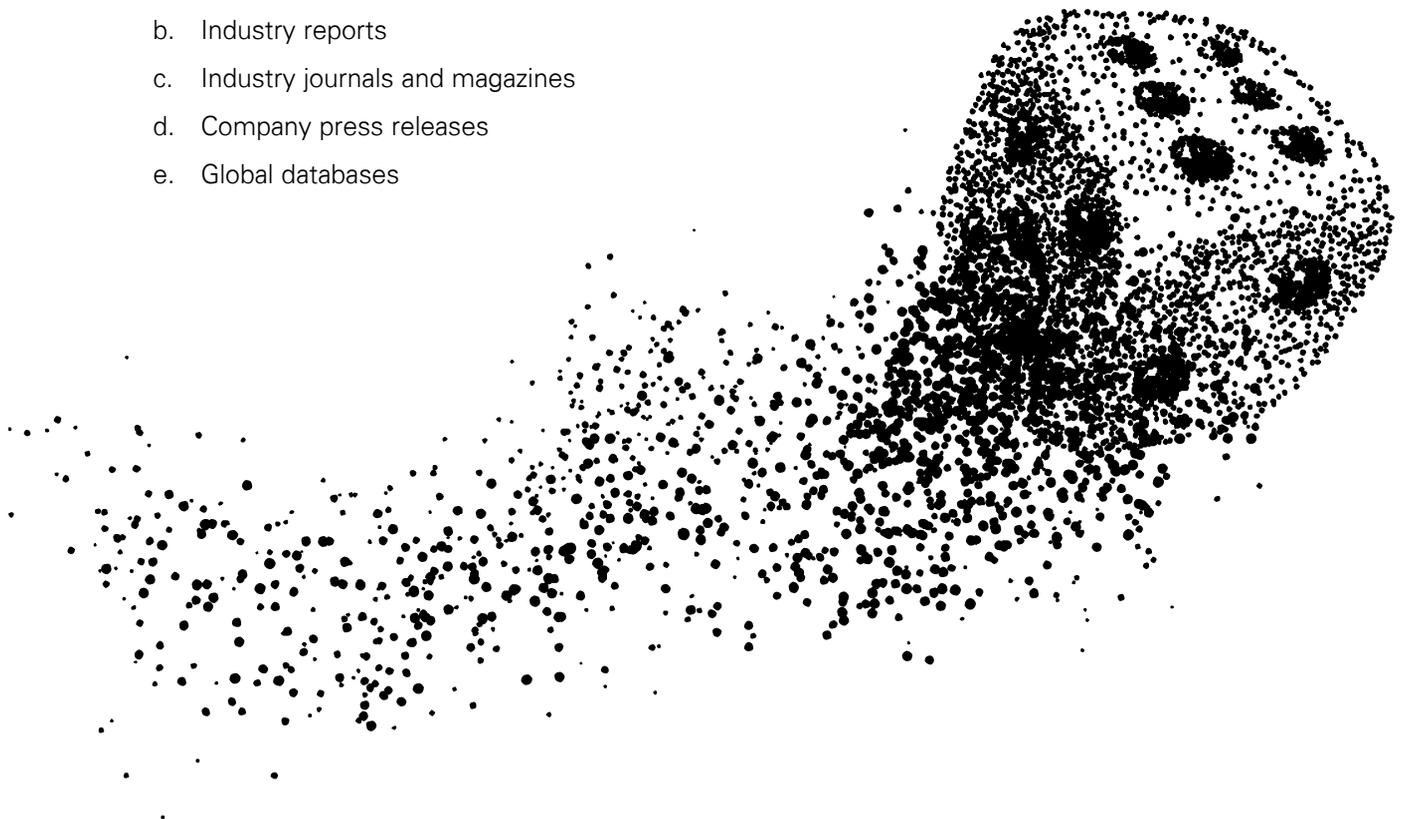
Annexure 2 : Primary research methodology

Research Methodology

The study was planned in multiple phases:

Passive behaviour (Smartphone Panel) **+** Exploratory insights (Qualitative analysis) **+** Quantified insights (Quantitative analysis) **=** 360⁰ Understanding of Gaming & Non-Gaming Consumers

Phase 1: Smartphone Panel Passive Data	Phase 2: Qualitative focus group discussions	Phase 3: Quantitative surveys for select sample
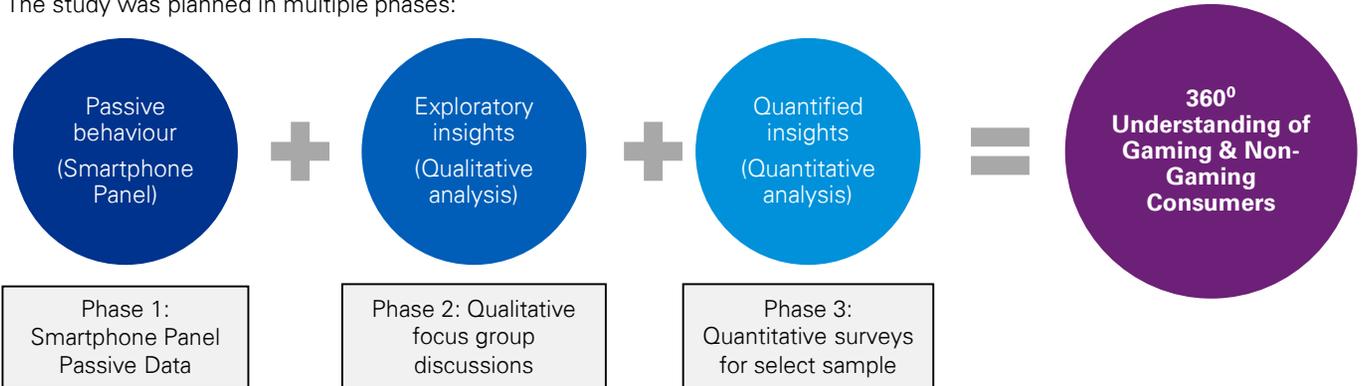
Phase 1: Metered smartphone usage behaviour

Smartphone Panel is an urban PAN India panel. This panel is representative of connected smartphone users in Urban India. It leverages innovative passive smartphone metering technology to provide insights into evolving consumption patterns of mobile device users.

Reporting period: All data tables shared are for JAS'16.

Segmentation of profile of users

Age Group	Gender	Town Class	Category – Based on time spend on online gaming
below 17 years	Male	Metro	Heavy gamer(s) - Spend more than 30 minutes/month
18-24 years	Female	Mini metro	Casual gamer(s) - Spend less than 30 minutes/month
25-30 years		Tier 1 towns	
30-35 years		Tier 2 towns	
36-40 years			
above 40 years			

Phase 2: Exploratory Research through qualitative groups

Qualitative research was undertaken to gauge the key triggers, barriers and perception among gamer segments.

Methodology: 18 focused group discussions with 5-6 respondents across Delhi, Mumbai, Bangalore and Chennai

User segments covered: Recent gamer(s), lapsers of gaming category, heavy online gamer(s) and non-users of gaming

Target group: NCCS A1/A2/A3, 16-45 years of age, owners of smartphone/Laptop/PC with internet connection and heavy users of internet (at least one hour a day).

Phase 3: Quantitative Survey to quantify the qualitative insights

Phase 2 was a key input to quantitative survey. The quantitative survey was conducted in order to understand the importance of triggers, barriers and perception among the online gamer(s) and non- gamer(s).

Methodology: 3000 Online surveys were conducted across North India (Delhi-NCR, Jaipur and Lucknow), South India (Chennai, Bangalore, Hyderabad and Vishakhapatnam), West India (Mumbai, Pune and Ahmedabad) and East India (Kolkata, Bhubaneshwar, Patna, Guwahati, Agartala and Shillong)

User segments covered: Online gamer(s) (New entrants, casual gamer(s) and heavy gamer(s)), non-gamer(s) and lapsers

Target group: NCCS A and B, 16-45 years of age, male and female, owners of smartphone/Laptop/PC with internet connection and heavy users of internet (at least one hour a day).

Glossary
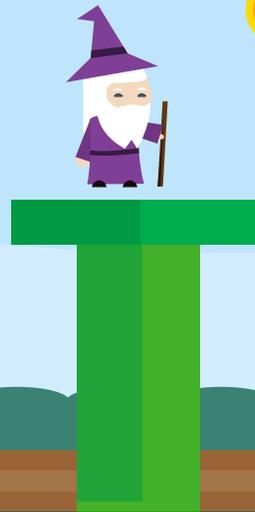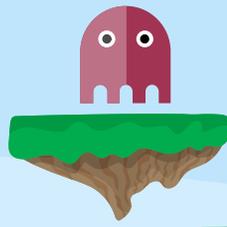
Term	Definition
App	Application
AR	Augmented reality
ARPU	Average revenue per user
CAGR	Compound annual growth rate
CPC	Cost per click
CPM	Cost per thousand impressions
CRM	Customer relationship management
E-commerce	Electronic commerce
FY	Financial Year
LAN	Local area network
MB	Megabyte
M&E	Media and entertainment
MMO	Massively multiplayer online
MNC	Multinational Corporation
M&E	Media and entertainment
NCCS	New Consumer Classification System
OEM	Original equipment manufacturer
PC	Personal computer
SP	Service provider
U.K.	United Kingdom
U.S.	United States of America
USD	United States Dollar
VR	Virtual Reality
3D	Three Dimensional

Acknowledgement

KPMG in India contacts:

Mritunjay Kapur
Partner and Head
Sales and Markets
T: +91 124 307 4797
E: mritunjay@kpmg.com

Akhilesh Tuteja
Partner and Head
Management Consulting
T: +91 124 307 4800
E: atuteja@kpmg.com

Sreedhar Prasad
Partner
Internet Business, E-Commerce and Start-ups
T: +91 80 3065 4055
E: sreedharprasad@kpmg.com

KPMG.com/in

Follow us on:
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Google contact:

Nitin Bawankule
Sales Director
Sales and Markets
Google India Pvt. Ltd.
T: +91 85 276 6 6122
E: nbawankule@google.com

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