

# GAME ON: THE GAMING OPPORTUNITY UNRAVELLED



by **docomo** digital



# GAMES IN OUR TIMES

For over five decades now, video games have captured our fancy. Over time they have evolved, reflecting advances made in technology and the evolution of consumer tastes. In recent iterations, they are being used not merely for entertainment but for various other purposes, including making mundane classroom lessons more engaging and immersive, and for new therapies for young patients in healthcare and clinical studies.

Unbeknownst to many is the fact the global video game industry is bigger in terms of revenue than both the global film industry as well as the over-the-top (OTT) media industry, which has seen a surge in recent years and is often talked about as the “next big thing”. If that is indeed the case, it is only fair to say games are the “current big thing”.

What is it then about video games that capture the imagination of the young and old, and of men and women alike? What has driven the ubiquity of gaming globally? Trip

Hawkins, founder and first CEO of Electronic Arts, which was a pioneer in the early gaming industry and instrumental in its first surge, says: “One of the things about games is that it really was the first meaningful consumer medium that was truly interactive.”

And one household at a time, to later one device at a time, consumers lapped up the experience that gaming provided. In 2020, the gaming industry has received a fillip from the most unexpected of quarters, as the COVID-19 pandemic continues to impact lives and shape human behaviour. At different points of time in the first half of the year, more than half the global population was living in some kind of a lockdown – this inadvertently had a profound impact on select industries, and video games was one of them. As more people were compelled to stay home, new means of engagement and entertainment had to be found. This led to the discovery of games as a pastime for some, and a rediscovery of sorts for many others.

## FOREWORD

The pandemic has caused seismic shifts in every aspect of life, upending many trends and revealing others as the world grapples with a very different set of choices. One such shift has been in the consumption of media and entertainment. While much has been said about the video and music streaming industry in the recent past, the segment that is growing faster is only getting mainstream attention among the aficionados – games, or gaming, as it is popularly referred to.

The numbers are telling. Gaming isn’t the domain of just the young any longer, with a much broader demographic jumping on the bandwagon. They are now experiencing advances made in gaming, enabled by new advancements in mobile connectivity, hardware and experiences. Solving for payments to improve access and engagement is as much a critical driver of growth in gaming, as it is in other media segments.

We are proud to present this research-based whitepaper with contributions from some of the leading voices in the gaming world, with our focus on developing insights that can serve as a guide for our partners in the telecom industry looking to navigate this space, as also for games’ publishers looking to grow their footprint, especially in emerging markets. We hope you find this whitepaper insightful as a reckoner on the gaming ecosystem, and how might we solve for the payments challenge, together as part of the rapidly growing mobile commerce ecosystem.



**Jonathan Kriegel**  
CEO







## LEVEL 1

The first video game prototype can be traced to Sanders Associates, Inc. It was possibly the pioneer, having built a multiplayer gaming system that could be played on a television, in 1967. A decade later, in 1977, Atari launched the video computer system. This is likely the console that most will recollect from the early days when video games started becoming popular. The Atari 2600, as it was commonly known, featured joysticks and offered the option of using interchangeable gaming cartridges.

The early 1980s were marked by a crash in the video game industry, and several manufacturers ceased operations. But it was also at around this time that the Nintendo Entertainment System was launched in the US, in 1985. This console ushered in several innovations for its time including improved graphics, more vivid colours and imagery, and also better sound and gameplay.

In the mid-90s, Sony started dominating the market. Its PlayStation 2 offering—at the turn of the millennium—went on to become the best-selling gaming console of all time. Half a decade later, Sony, Microsoft and Nintendo ushered in the era of high-definition gaming. This period also witnessed the uptake of social media platforms and the introduction of the first smartphones; both enabled the foundation for a robust mobile gaming ecosystem.

Mobile gaming was around, even when feature phones were commonly in use. Snake, for instance, was a hugely popular game when “black and white” Nokia sets were ubiquitous. However, game developers at the time had to go through the arduous task of designing individual games for an array of platforms. It is only after smartphones were introduced with conventional operating systems that mobile gaming began catching on at exceptional levels.

According to Mr Hawkins, “A defining singularity in the history of technology was the launch of the iPhone. What a dramatic leap that was. Until the launch of the first iPhone, there was a lack of

imagination, but Apple radically altered things.” Mr Hawkins says Apple successfully built on top of what NTT DOCOMO had innovated. Many of the concepts about the power of the medium had really been introduced by DOCOMO, but the one thing that really had to be done was to improve device experience, and that is what Apple did, he adds.

“We are now able to, in hindsight, appreciate in a historical context the genius of Steve Jobs at understanding how to use computer technology to create a human experience,” in terms of the user experience and the user interface and “taming” all of it so that the public can use it all successfully.

Needless to say, the launch of the first iPhone was the result of possibly years of hard work and preparation, but the impact it had on several industries—including gaming—was immediate. From a gaming industry perspective, that marked an inflection point in terms of how many consumers could be reached – from a few hundred million who owned PCs or game consoles at home, to literally billions who came to own these devices.

Handheld devices accelerated mobile gaming, and among the first games that acquired a massive user base was Angry Birds. Its parent company, Rovio, generated a sizeable US\$200m in 2012 alone.<sup>1</sup> Such was the popularity of the game that it was even made into an animated film and brand licensing rights were issued to market a wide array of merchandise.

The global video gaming market size grew to US\$152.1bn in 2019, from US\$91.4bn in 2015. On the whole, the gaming industry has grown at a steady CAGR of 9.6% over the past five years. By 2022, global gaming industry revenue will reach US\$196bn.<sup>2</sup>

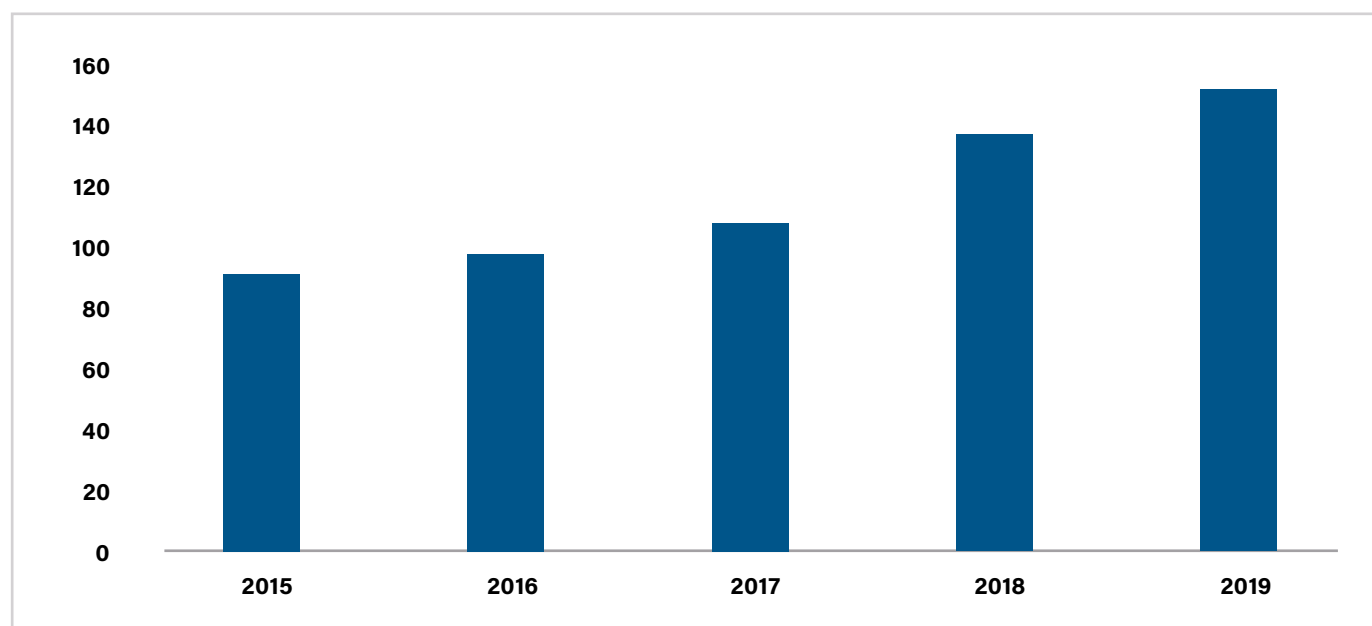
<sup>1</sup> History. Video Game History. Available online at: <https://www.history.com/topics/inventions/history-of-video-games>

<sup>2</sup> Newzoo. Global Games Market Report 2019 | Light Version. Available online at <https://newzoo.com/insights/trend-reports/newzoo-global-games-market-report-2019-light-version/>





**Exhibit 1: Global games market revenue, 2015–2019 (US\$bn)**



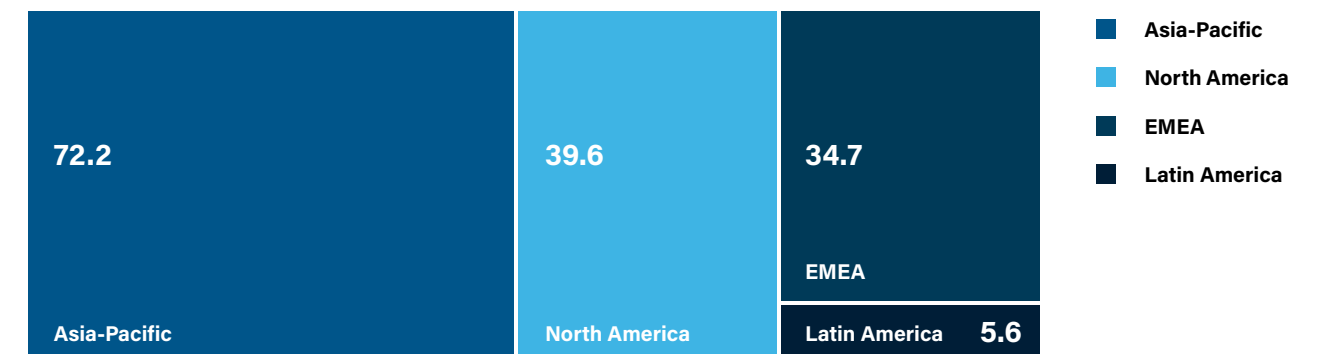
Source: Newzoo, via Statista

By geography, the Asia-Pacific region accounted for 47% (or US\$72.2bn) of global revenue, far ahead of other regions – North America was next with revenues of US\$39.6bn (a 26%

market share), followed by EMEA with a 23% market share and Latin America at 4%. China is the single largest gaming market, with revenues worth US\$36.5bn in 2019.<sup>3</sup>

<sup>3</sup> Newzoo. Top 10 Countries/Markets by Game Revenues. Available online at: <http://www.newzoo.com/insights/rankings/top-10-countries-by-game-revenues/>

**Exhibit 2: Global games market revenue in 2019, by region (in US\$bn)**



Source: Newzoo, via Statista

Mobile gaming was the largest segment of the US\$152.1bn gaming industry in 2019, with US\$68.5bn in revenue (45% of total global gaming revenue). In 2019 alone, mobile gaming industry revenue increased by 10.2%, illustrating the strong growth it is witnessing. By 2022, Newzoo expects mobile gaming will make up almost half (49%) of the total \$196bn gaming industry revenue.

We can continue to expect further growth in Asia, says Sebastian Lindlahr, digital media analyst at research portal Statista. In his view, while the market for mobile games is “pretty much saturated” in the US and in Europe, significant growth is expected in Asia and Africa.

Forecasts suggest the community of people actively playing games online or “gamers” as they are more commonly referred to, will comprise more than 2.7bn people by 2021 – a 50% increase over 1.82bn in 2014.<sup>4</sup>

The video game industry is rapidly evolving and with technology advancements on other key fronts such as voice and motion control, augmented reality (AR), virtual reality (VR) and live game streaming, the sector is poised for continued growth. The advent of 5G technology will further bolster the industry and boost cloud gaming. 5G will result in high-speed transmission of gaming data – latency of gaming data will improve so drastically that game streaming and subscription services—like Netflix and Prime in the area of OTT media—could become the future. While a large number of games are available with zero up-front charges, it is likely this segment will appeal more to the casual gamer. The more

avid gaming enthusiast will be willing to pay a periodic fee to avail subscription services. For instance, gamers across the world spent an average of US\$123 on game purchases over a three-month period in 2018.<sup>5</sup>

Advertising will lead to revenue generation in 2020 for an increasing number of gaming apps. This is a marked change from the earlier popularity of in-app purchases. That mobile gaming is currently the most popular form of gaming possibly further augments this shift in monetisation models. According to some estimates, there are more than 2.5bn mobile game players in the world today – that is a huge playing ground for advertisers. New in-game ad formats such as reward ads and playable ads are becoming increasingly popular, with the in-game ad market growing at 84% since 2015.<sup>6</sup>

Massively multiplayer online games (MMOG) have caught on particularly well since the turn of the century. These games allow users to simultaneously play against other gamers—often in the hundreds or even thousands—on the same server, using an internet connection. Over the past two decades or so, MMOGs have become popular to the extent young gamers are addicted, with adverse implications on their mental and physical health. This is the case in several Asian markets such as China, Hong Kong, Japan, South Korea, Thailand and Singapore. Gaming addiction-related deaths in South Korea, for example, resulted in a national outcry and a Shutdown Law, which imposes a gaming curfew on those younger than 16 years of age between midnight and 6 am by blocking access to online games.<sup>7</sup>

<sup>4</sup> Statista. Number of active video gamers worldwide from 2014 to 2021. Available online at: <https://www.statista.com/statistics/748044/number-video-gamers-world/>

<sup>5</sup> Ibid

<sup>6</sup> Criteo. 3 Things You Need to Know About the \$3 Billion Mobile Gaming Ad Market. Available online at: <https://www.criteo.com/insights/3-things-you-need-to-know-about-the-3-billion-mobile-gaming-ad-market/>

<sup>7</sup> MIT Technology Review. Video Games are Dividing South Korea. Available online at: <https://www.technologyreview.com/2019/12/23/238190/video-games-national-crisis-addiction-south-korea/>



# THE SOUTHEAST ASIAN BOOM

Asia is responsible for almost half of global mobile gaming revenue today, and this is owing to several factors, the most important of which is the surge in smartphone and mobile internet penetration on the continent. As the region's economies have grown, so too has the propensity of its people to spend more on mobile phones. This has gone hand in hand with improvements in enabling infrastructure.

In the past few years, owing to these factors—and others—a comprehensive mobile gaming ecosystem has developed in Southeast Asia, and the mobile gaming industry is thriving in the region.

Frank Sliwka, CEO of International Business Media, a global management consultancy for the e-sports and gaming industry, says that in Southeast Asia, the growth in mobile gaming has been driven by improvements in infrastructure – this relates to mobile services, mobile broadband penetration, data bandwidth, and packages provided by telcos, among others. Another driver is the proliferation of smartphones, which are cheap and accessible to a majority of the population.

Mr Michael Chung, head of games & direct carrier billing at Malaysia's Digi Telecommunications, explains that beyond the bare essentials, Southeast Asia has a lot more going on that has enabled the growth of the gaming industry – discovery, easy access and payment convenience.

Mr Chung says Southeast Asia is where Facebook has recorded its highest growth and usage, and it has become one of the key discovery channels for mobile gaming. Additionally, running digital ads for acquisition campaigns has become more effective for game publishers, too, as has the social sharing mechanism in terms of enabling more user-generated content.

Second, he says: "We have seen more organisations getting into mobile gaming and competitive gaming by providing value-added services. The telcos are especially active because they play an important role in providing data access to make the mobile gaming experience a lot better."

And finally, the gaming industry has benefitted greatly with the growth of digital payments, which "facilitates the distribution of paid content at scale". In this regard, direct carrier billing (DCB) helps accelerate the growth of mobile gaming, given how convenient it makes it for users to make payments, and the likelihood of youth to be unbanked.

Another factor that is responsible for the rapid growth of the mobile gaming industry in Asia is an openness to using technology regularly for different purposes. Countries across Asia, for example, are witnessing a digital payments revolution, and a plethora of fintech-driven solutions are becoming increasingly popular.

According to Ms Koon Miin Ng, who is responsible for partnerships – e-sports, content & marketing at Malaysia-based U Mobile, an essential factor driving the growth of mobile gaming in Southeast Asia is an openness to a digital lifestyle – this is important for it results in faster adoption and a greater willingness to try new mobile games. This is not surprising, as Southeast Asians spend substantially more time using the mobile Internet than users in other parts of the world.<sup>8</sup> Internet users in the region also spend a substantial amount of time using game consoles, as the Exhibit below shows.

<sup>8</sup> Google. e-Economy SEA 2019. Available online at [https://www.blog.google/documents/47/SEA\\_Internet\\_Economy\\_Report\\_2019.pdf](https://www.blog.google/documents/47/SEA_Internet_Economy_Report_2019.pdf)



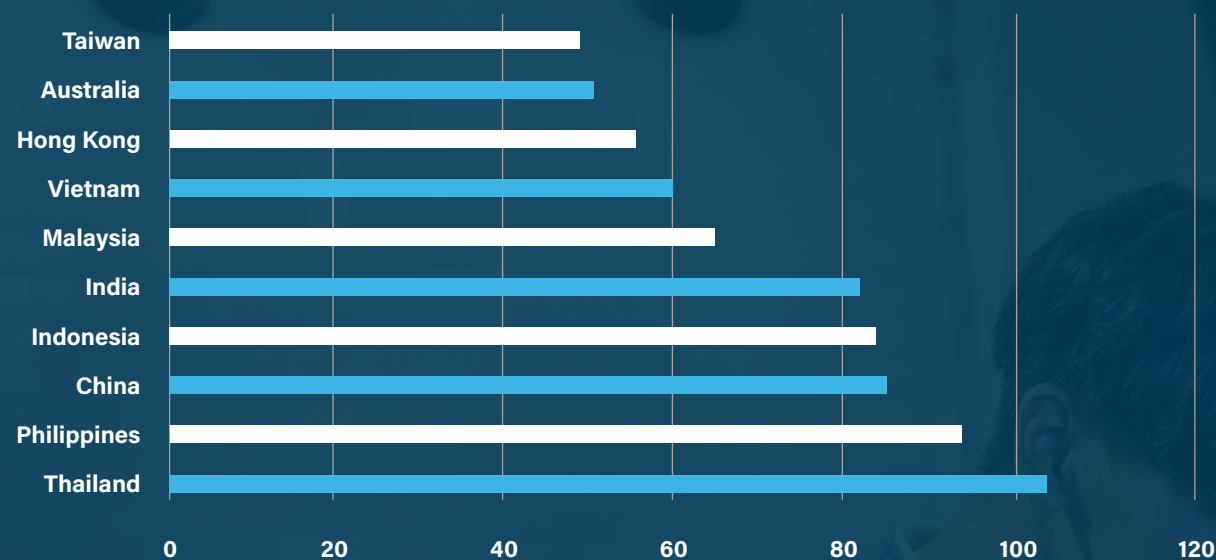
“ Emerging economies sit on the cusp of tremendous growth in the mobile gaming segment as they will see both, millions of new mobile gamers coming on board every year, as well as existing gamers spending more time on playing, given improving mobile internet connectivity and data speeds.”

Jonathan Kriegel, CEO – DOCOMO Digital





**Exhibit: Daily time spent using game consoles by internet users aged 14-64 in select Asian economies in 2019 (in minutes)**



Source: Hootsuite; GlobalWebIndex; We are Social; via Statista

She also talks about how mobile payments and digital wallets are popular means of payment, not only because they are convenient, but because they come with several offers from participating merchants looking to acquire customers. Ms Ng adds that “payment providers are creative and focus on customer engagement online with their applications to keep customers returning to use their service.”

Growth is also resulting from the corresponding growth in mobile e-sports tournaments in the region, Ms Ng says. Several companies such as Globe, Telkomsel, Singtel and Moonton have invested heavily in the region and local tournaments, tapping into gaming communities to drive revenue and player retention for their services. Online tutorials—where gamers pay to watch experts play—dedicated to improving gaming proficiency are becoming increasingly popular as well.

Mobile gaming industry growth will continue in the region as infrastructure continues to improve and more and more people come on board the mobile Internet bandwagon. There are about 360m internet users in Southeast Asia, of which 90% connect to the internet using their mobile phones.<sup>9</sup> For a region with a population of more than 600m, this suggests there is still ample scope for growth in the mobile internet user base in the region, which will directly translate into a greater number of mobile gamers and subsequently, mobile gaming revenue.

<sup>9</sup> Google. e-Economy SEA 2019. Available online at [https://www.blog.google/documents/47/SEA\\_Internet\\_Economy\\_Report\\_2019.pdf](https://www.blog.google/documents/47/SEA_Internet_Economy_Report_2019.pdf)







## CHANGING AVATARS

A fundamental shift from simply gaming to mobile gaming is well and truly underway. This is reflected in mobile gaming's growing share of total gaming revenue globally. In 2012, the share of mobile gaming revenue to total gaming revenue stood at just 18%. By 2021, this number is expected to increase to 59%.<sup>10</sup>

According to Mr Lindlahr, the growing share of mobile gaming revenue can be attributed to the "very high user growth, which will increase further" as everyone will soon have access to a smartphone. Global smartphone penetration stood at 55% in 2019, he says, and the number is expected to reach 67% by 2020, with Africa and Asia seeing the most growth. India's internet subscriber base, for instance, grew from 368m in 2016 to 560m in 2018. Of this, 86% were broadband subscribers.<sup>11</sup> Such trends are playing out across most emerging economies.

Where once access to the internet was a privilege of the few, today it is a basic good.

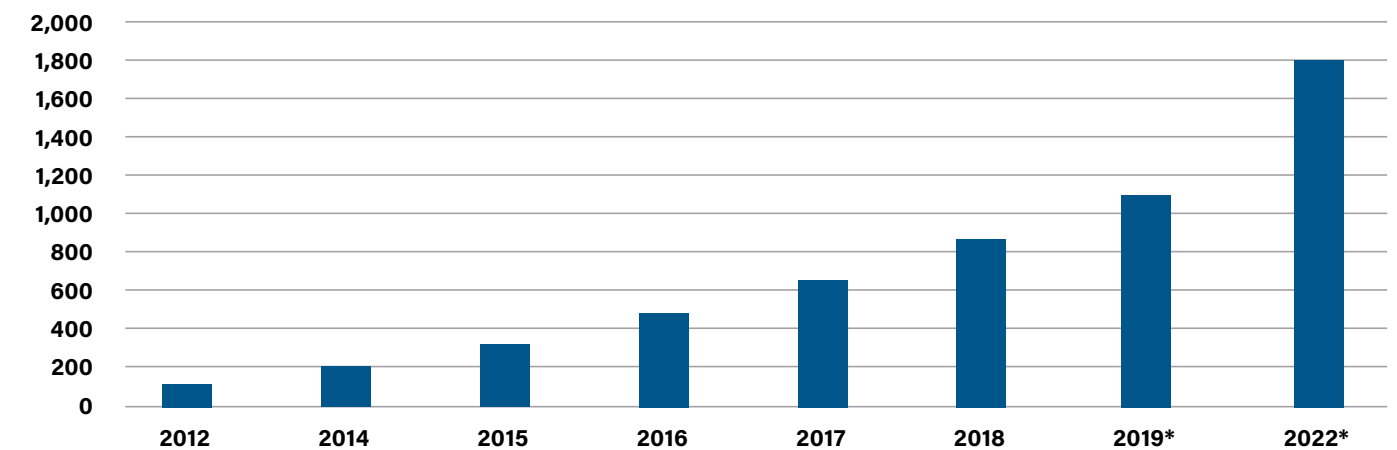
Today, the smartphone is both transforming lifestyles and lends itself to consumer lifestyles. It is transforming lifestyles by providing information, connectivity and entertainment anywhere and in the blink of an eye, and it is doing so for cheap, resulting in behavioural change wherein children and the old alike are glued to their phone screens.

On the other hand, smartphones and their uses also lend themselves to modern-day lifestyles. More than anything else, they provide convenience. They also provide instant gratification in many ways – whether it is by watching a short video online, chatting with loved ones or listening to a song that one perhaps didn't know even existed. In an age where everyone is seemingly becoming busier by the day, the smartphone is the perceived solution to many time-related woes.

Additionally, says Mr Sliwka, "game developers have adjusted to mobile devices". He takes the example of PlayerUnknown's Battlegrounds (PUBG) Mobile, which was initially developed for state-of-the-art mobile devices. However, in Vietnam, there weren't many such devices and so the game failed in markets like Vietnam and Malaysia. But game developers are now optimising games for devices that are commonly used, increasing their chances of success.

Within the broader gaming sphere, e-sports are increasingly popular. There is a sizeable gaming community playing e-sports and a growing number of people wanting to watch this community play these games. The segment is forecast to register US\$1.6bn in revenue by 2021<sup>12</sup> and US\$1.8bn the following year.

**Exhibit 3: Global e-sports market revenue from 2012-2022 (in US\$m)**



Source: Statista

<sup>10</sup> Statista. Mobile gaming share of total gaming revenue worldwide from 2012 to 2021. Available online at: <https://www.statista.com/statistics/260167/mobile-gaming-share-of-total-gaming-revenue-worldwide/>

<sup>11</sup> KPMG. The evolving landscape of sports gaming in India. Available online at: <https://assets.kpmg/content/dam/kpmg/in/pdf/2019/03/online-gaming-india-fantasy-sports.pdf>

<sup>12</sup> Influencer MarketingHub. The Incredible Growth of eSports. Available online at: <https://influencermarketinghub.com/growth-of-esports-stats/>



Recent years have seen organised multiplayer gaming competitions that continue to gain in popularity. Examples of competitive games include League of Legends, Dota 2 and PUBG. According to industry professionals, this is one of the “next big things” in the evolution of mobile gaming.

The growing number of people interested in watching e-sports presents substantial advertising revenue potential in much the same manner as advertising slots sell during marquee sports events such as the US Super Bowl. This is no surprise considering that in 2020, 70m US residents are expected to watch a single e-sport final, more than the number that will watch US professional basketball, baseball or hockey finals.<sup>13</sup> In fact, e-sports will have more viewers than any sports league in the US, by 2021, barring the NFL.

The day is not far when e-sports will be inducted as an Olympics event. In fact, e-sports has already been contested as a medal event at the 2019 Southeast Asian Games held in the Philippines – the six titles contested were Mobile Legends: Bang Bang, Arena of Valor, Dota 2, Tekken 7, Starcraft and Hearthstone.<sup>14</sup> E-sports has already been included as a demonstration event at the 2018 Asian Games.

This illustrates the rapidly growing popularity of e-sports from a viewership perspective. By 2021, the number of casual e-sports viewers will be about 307m, in addition to another 250m-odd e-sports loyalists, bringing the global viewer base to a very substantial 557m.<sup>15</sup>

Prior to mobile gaming becoming the most popular form, consoles were the rage. In the late 2000s, there were also several VR options offered, but the response was lukewarm. The devices just did not gain wide acceptance, and regular gaming consoles continued to dominate. However, in recent times, VR and AR have made steady inroads and are likely to acquire an important role in the gaming sector. Gamers are now more accepting of the usage of VR/AR glasses and headsets. If expected sales figures are accomplished this time around, VR will become a gaming mainstay;<sup>16</sup> standalone VR headset sales in 2019 registered a 47.5% increase over 2018 levels.<sup>17</sup>

Large technology companies such as Facebook have seized the opportunity. According to the company’s Vice President of AR/VR, Andrew Bosworth, in only two weeks of its Oculus Quest VR headset going to market, Facebook recorded US\$5m in content sales.<sup>18</sup> This VR headset has a distinct advantage over other offerings in its segment; it neither requires a computer, nor is it constrained by the need for wires, freeing up the gaming experience both literally and metaphorically.

These are, but some of the trends that have the potential to redefine the mobile gaming ecosystem, or have started doing so already.



<sup>13</sup> Whitman Syracuse University. With Viewership and Revenue Booming, Esports Set to Compete with Traditional Sports. Available online at: <https://onlinebusiness.syr.edu/blog/esports-to-compete-with-traditional-sports/>

<sup>14</sup> ONE Esports. From Arena of Valor to Tekken, here’s what’s happening in esports at the 30th SEA Games. Available online at: <https://www.oneesports.gg/aov/esports-at-sea-games-2019-everything-you-need-to-know/>

<sup>15</sup> Influencer MarketingHub. The Incredible Growth of eSports. Available online at: <https://influencermarketinghub.com/growth-of-esports-stats/>

<sup>16</sup> Clairfield International. Gaming Industry – Facts, Figures and Trends. Available online at: <http://www.clairfield.com/wp-content/uploads/2017/02/Gaming-Industry-and-Market-Report-2018.01-2.pdf>

<sup>17</sup> IDC. AR & VR Headsets Market Share. Available online at: <https://www.idc.com/promo/arvr>

<sup>18</sup> TechCrunch. Oculus sold \$5 million worth of Quest content in first 2 weeks on sale. Available online at: <https://techcrunch.com/2019/06/10/oculus-sold-5-million-worth-of-quest-content-in-first-2-weeks-on-sale/>



# ECOSYSTEM TEARDOWN

For current generations, it is normal to visit virtual museums and experience “Neanderthal” gaming, watching snippets of Super Mario or Contra. Rapid digitisation, faster and inexpensive data availability and wide smartphone usage have ensured the shift from gaming consoles to a predominant preference for mobile gaming. These developments also resulted in an ecosystem shake-up.

At one end of the spectrum, in many markets, cheaper smartphones with basic configurations rule the roost,

providing a relatively basic gaming experience. On the other, smartphones today have operating systems that can rival mid-range computers enabling state-of-the-art graphics and gameplay. There are also specialised gaming phones which have been optimised to deliver superior performance, such as cutting-edge HD AMOLED displays, razor sharp screen resolutions, high refresh rates and substantial RAM.<sup>19</sup>

In short, there's something for everyone.

## What kind of gamer are you?

According to Mr Lindlahr, mobile games are still not as feasible for complex gaming as many things are “just not possible on smartphones”. Additionally, in his view, mobile gaming is “only attractive for casual gamers and not professional gamers”.

Gamers can be categorised into three distinct types, namely the hardcore or professional gamer, the casual gamer and the mass market gamer. A typical professional gamer is a young male who, over the course of a year, is likely to spend between US\$1,000 to US\$1,500 on gaming hardware and software. Such a gamer wants to use high-end equipment since they are likely to also have a keen interest in competitive e-sports. On average, hardcore gamers account for 70-80% of all gaming equipment sales.<sup>20</sup>

The casual gamer takes a keen interest in gaming but is unlikely to engage in it professionally. There is, however, a possibility that a casual gamer transitions to a hardcore gamer. Casual gamers are unlikely to spend much on gaming equipment and as such, will account for no more than 15-25% of total sales volumes.

Meanwhile, the mass market segment comprises the occasional gamer. This segment is most interested in free games or in Free2Play offers. Considering their purchases are

likely to be minimal, casual gamers make up about 5% of the market total. Free2Play games are usually offered to encourage in-game purchases.<sup>21</sup>

Casual single-player games such as Candy Crush, Angry Birds and Spider Solitaire are very popular today. Taking the concept of casual one step further is the rapidly emerging sub-category called hyper-casual games. These require minimal operating system requirements and can be played easily on a wide range of smartphones. The game mechanics are basic, and they require little app development and production times – meaning they can be taken to market swiftly. A well-liked example is Skiddy Car.<sup>22</sup>

The second-most popular category is first-person shooter games. This format finds favour with more experienced gamers. Examples include Call of Duty and Destiny 2.

The third kind, in terms of preference ratings, comprises single-player role-play games such as Fortnite and PUBG. And then there are also massive multiplayer online role-playing games like World of Warcraft.<sup>23</sup> Video games are also driving new (in-game) experiences – for example, Fortnite broadcast a live concert in-game in April 2020, pulling in 12m viewers for the premiere alone.<sup>24</sup>

<sup>19</sup> AndroidCentral. Best Gaming Phones in 2020. Available online at: <https://www.androidcentral.com/best-phone-gamers>

<sup>20</sup> Clairfield International. Gaming Industry – Facts, Figures and Trends. Available online at: <http://www.clairfield.com/wp-content/uploads/2017/02/Gaming-Industry-and-Market-Report-2018.01-2.pdf>

<sup>21</sup> Ibid

<sup>22</sup> SmartyAds. Mobile Gaming Trends 2020: From ‘Hyper-Casual’ to AR. Available online at: <https://smartyads.com/blog/mobile-gaming-trends-get-the-inside-scoop/>

<sup>23</sup> Limelight Networks. The State of Online Gaming – 2019. Available online at: <https://www.limelight.com/resources/white-paper/state-of-online-gaming-2019/>

<sup>24</sup> Tech Crunch. Fortnite Hosted a Psychedelic Travis Scott Concert and 12.3 million People Watched. Available online at: <https://techcrunch.com/2020/04/24/fortnite-hosted-a-psychedelic-travis-scott-concert-and-12-3m-people-watched/>







## Where's the money?

Revenue models in the mobile gaming industry are largely dependent on in-game purchases. In simple terms, it is the purchase of virtual goods online. In-game purchases include verticals such as account expiries, chance purchases and in-game currencies, among others. For instance, pets and mounts are common in-game purchases in the popular role-playing game World of Warcraft.

Separately, the game Fortnite registered annual revenues of almost US\$2.5bn in 2018. Of this, a sizeable US\$1bn came from in-game purchases alone.<sup>25</sup> This is an extraordinary outcome for a game that is otherwise available free of cost. Fortnite is now a mass-market phenomenon with the idea that it is the world's biggest party. As Mr Hawkins says, "There has to be something to do, so shooting is going to be that thing, and there's going to be some level of competition. But this is just a really big party that has more to do with what outfit you wear to a party or what kind of dance moves can you break out, and how you're showing off in front of your friends. It's clearly more of a social experience," he says.

In many ways, says Mr Hawkins, Fortnite is setting the path for the future. "For the next couple of years, I don't think any game is going to come up as often in discussions and references in-game design meetings of developers that are building the next generation of games," he adds.

Revenue from account expiry can again be best explained in terms of the Fortnite game. A seasonal "battle pass" costs US\$10, and it has a manic following. One-third of all US gamers signed up for one, meaning of the total 164m gamers in the US,<sup>26</sup> some 54.5m had purchased a battle pass. In contrast, an OTT platform such as Netflix has 60m US subscribers,<sup>27</sup> and that is not a show but the entire platform.

The interesting highlight here isn't pitting gaming against OTT platforms, but rather the enormous outcome that will likely take form if gaming and video streaming platforms such as Netflix and YouTube collaborate further. Also, taking into account the fact that e-sports have a large audience base, it is evident that gaming and OTT media will emerge as complementary entities. For example, Fortnite announced its collaboration with the Star Wars franchise in late 2019.<sup>28</sup>

In a model similar to that of OTT platforms, which offer video and audio subscription services, Microsoft, Google and Apple have entered this space. Microsoft offers almost 100 games in the form of downloadable content which gamers can access for a monthly subscription. While this is an entirely novel concept—video game rentals were common when Blockbuster stores existed—it is expected to be transformational for the mobile gaming industry. The current value of the global mobile gaming content market is estimated at US\$95.6bn.<sup>29</sup>

In addition to revenue generated from account expiries, another monetisation route is the purchase of "cosmetics". These are virtual add-ons that gamers can buy to reflect their real-life personality or to create a personality-type they desire. This is common in role-playing games where in-game "skins" have become an effective way to both monetise and boost user retention. Skins are a major part of the virtual economy, and they can be traded on virtual goods market places such as DMarket. It is a beneficial platform for game developers too, who can purchase virtual items for their own game developments or list their virtual wares for sale to other gamers.<sup>30</sup>

Mr Hawkins delves a little deeper into gamers' psyches. In Japan, for instance, he says ace gamers were spending US\$5,000 or more to buy gaming avatars – essentially a virtual commodity. He likens it to a Hollywood star purchasing a designer gown to attend a major film industry event. Rationalising the purchase from gamer's perspective, he says: "If I am at the top of the pile of 10m gamers as the most elite gamer in that game, why wouldn't I want to demonstrate that to people by having an outfit that none of them could afford? I mean, it really is the same."

Additionally, in-game currencies are an important source of revenue, especially for free-to-play games. An example of this is a scenario wherein a gamer can perhaps purchase 100 "gold coins" for, let's say, US\$10. These gold coins can then be used to make in-game purchases of virtual cars or weapons. Certain free games also offer the option of purchasing "lives". Usually, lives will recharge after a predetermined timeframe lapses, but then we live in the age of impetuosity, and instant gratification, so many gamers are happy to buy these "lives" rather than stall their gaming experience.

More recently, rewarded video advertisements have become an effective monetisation model. In this model, a gamer views an advertisement of about 15 to 30 seconds, and in return, receives an in-game bonus. This could be an extra life or some crucial hint to make the player progress to a higher game level perhaps. In this model, the assumption is that gamers would rather watch a rewarded video advertisement than make a purchase using actual money.

<sup>25</sup> HIGHSNOBIETY. 'Fortnite' Has Made Over \$1 Billion From In-Game Purchases. Available online at: <https://www.highsnobiety.com/p/fortnite-1-billion-in-game-purchases/>

<sup>26</sup> Entertainment Software Association. 2019 Essential Facts About the Computer and Video Game Industry. Available online at: <https://www.theesa.com/esa-research/2019-essential-facts-about-the-computer-and-video-game-industry/>

<sup>27</sup> Business Insider. Netflix is still growing wildly, but its market share has fallen to an estimated 19% as new competitors emerge. Available online at: <https://www.businessinsider.in/finance/news/netflix-is-still-growing-wildly-but-its-market-share-has-fallen-to-an-estimated-19-as-new-competitors-emerge/articleshow/73587515.cms>

<sup>28</sup> Kitguru. Fortnite x Star Wars crossover announced. Available online at: <https://www.kitguru.net/gaming/mustafa-mahmoud/fortnite-x-star-wars-crossover-announced/>

<sup>29</sup> Statista. Mobile contents market value worldwide from 2011 to 2021. Available online at: <https://www.statista.com/statistics/292512/mobile-contents-market-value-worldwide/>

<sup>30</sup> DMarket. User's Offers. Available online at: <https://dmarket.com/ingame-items/item-list/csgo-skins>

<sup>31</sup> The Verge. Amazon, not Google, is buying Twitch for \$970 million. Available online at: <https://www.theverge.com/2014/8/25/6066295/amazon-reportedly-buying-twitch-for-over-1-billion>

Mr Lindlahr identifies one easily missed fact that is likely to assist in driving more in-game advertisements in mobile games going forward. In his view, "one important reason why advertising in mobile games will increase is because the screen sizes of mobile phones have been increasing".

Platforms such as Twitch—acquired by Amazon for US\$970m in 2014<sup>31</sup>—which is a video live streaming service focused on video game live streaming as well as broadcasts of e-sports competitions, provides an entire range of revenue-generating possibilities. Here, game streamers seek to earn revenues through advertisements and subscriptions, much like on any other video streaming platform.

In the realm of advertising, an increasingly popular opportunity for gamers lies in what has been termed as advergaming. Many brands have started advertising their products through interactive video games that engage potential buyers. Sometimes, these games are designed in collaboration with video game development companies. This form of advertising goes one step beyond in-game advertising. The day is not far when a new model emerges – one that is a mix of advergaming and in-game advertising. In other words, there could be games in which certain segments are completely aligned with the advertising objectives of a particular brand.

The large amount of data the mobile gaming industry is accumulating can also become a lucrative monetisation route. Millions of gaming enthusiasts are sharing their personal information such as names, phone numbers, ages and e-mail addresses, among others. The aggregation of this data can provide a tremendous revenue stream for the industry.



# GAMING AND PAYING

Free-to-play video games are the most popular kind today. “From a marketing standpoint, there’s no word more powerful than ‘free’ – that’s incredibly powerful,” says Mr Hawkins. This sentiment is echoed by Mr Lindlahr, who says that “going forward, most games will adopt the free-to-play principle”. The likelihood of a game being downloaded in the first instance is much higher if it is free!

Of course, these games generate sizeable revenues too, mostly on account of in-game purchases. In fact, games of this kind will see their revenue reach US\$32bn in 2020.<sup>32</sup>

There are various payment options, and the choice of option is dictated by both convenience and security. Online security is also accorded its due importance by mobile gamers; over 50% were unlikely to make purchases or play games on a platform that had experienced a security lapse or data breach.<sup>33</sup>

Similarly, in mobile gaming—much as in any other activity—the user experience needs to be smooth and seamless. By that same token, paying for anything in a mobile game must be made as convenient as possible. Imagine the annoyance if a player—at a critical juncture in his fight against evil—needs to enter payment information to either activate a special power or to purchase a weapon! That can kill the entire gaming experience.

In Mr Sliwka’s view, when it comes to payments, convenience is the most important attribute. Even as e-sports becomes increasingly popular, he says, it has not been able to get around the challenge of how to pay gamers. In some cases,

there are over 10,000 tournaments a year, so paying players small sums manually through PayPal or bank accounts on a consistent basis is simply not feasible.

“Purchasing games is very easy through mobile wallets... as are in-game purchases,” he says. An estimated 76% of all Chinese users are either already using or would like to use an e-wallet.<sup>34</sup> In countries where gamers are confident of their online security arrangements, credit and debit card payments are still the payment option of choice. Examples of such markets are the UK and France.<sup>35</sup> A direct debit payment system called iDeal is a well-liked option in the Netherlands.

PayPal is a very popular payment tool as well and its big advantage lies in the security it offers – it does not share cardholder information with the vendor or merchant. RazorPay, an online payments platform, is a popular choice for users in India.<sup>36</sup> GlobalCollect is preferred by most multiplayer online games, game publishers and casual gaming platforms. It provides international payment products which help in localisation strategies for a host of genres including free-to-play, download-to-own and pay-to-play offerings.<sup>37</sup>

Mobile gaming-related purchases begin when a user purchases a paid game online, buys in-game offerings, purchases virtual goods or subscribes to a gaming OTT service. At each of these points, a monetary transaction may take place and a cumbersome payment process can lead to “cart abandonment” – meaning the user is probably confused, lacks trust, or irked at the payment gateway and cancels his or her transaction entirely.

Mr Sliwka stresses that the industry will see more in-game purchases if they are convenient. He says micro-transactions—which are very common—can be cumbersome for users as the same processes have to be repeated multiple times. In his view, if these purchases can be made through mobile wallets (through DCB), then there will likely be a spike in revenue. This is starting to happen as such platforms are being created, but they are not connected to carriers at the moment.

DCB is a proven payment option which has consistently delivered better conversion and retention rates. According to Mr Chung, DCB is the preferred payment set-up option in Southeast Asia, given there is a very large unbanked population in the region without access to bank accounts or credit cards.

This is a view espoused by Mr Lindlahr, who says that while DCB is not a major thing in the US and Europe, it could increase revenues in developing economies in Asia and Africa, as access to debit and credit cards can be difficult.

However, Mr Chung says the greater use of DCB is held back because of some limitations set by telcos. These include setting spending limits that only allow users to spend up to a certain amount through DCB. Some also restrict their users from using DCB according to their tenure in the network, Mr Chung adds.

Merchant data indicate that businesses offering DCB to customers are likely to witness conversion rates that are between five and nine times higher than credit cards. There is also evidence suggesting that the average revenue per user (ARPU) is 30% higher in the case of DCB.

Besides advantages offered to users, DCB usage enables telecom operators to register a substantially higher topline. They also stand to benefit from higher mobile data usage – another potential revenue booster.

DCB is the fastest and quickest payment method in the market today, offering several advantages over other modes of payment. According to Ms Ng, “DCB can be a catalyst for the growth of the mobile gaming industry as it is very aligned with gamers’ need for instant gratification.” She adds that the effect of DCB is amplified when game publishers, game credit providers and carriers run promotions together.

The unique benefits of DCB include transparency in transactions through phone bills and flexible charging price points. Currently, in-app purchases are mostly facilitated by DCB and it is quickly gaining ground. The reason for DCB’s increasing popularity is the higher prevalence of mobile phone accounts globally as opposed to credit card accounts – an estimated 6.8bn active mobile phone accounts worldwide

against 2.15bn credit card accounts.<sup>38</sup> In India, for instance, there are over 300m gamers<sup>39</sup> currently, while only a paltry 48m or so are credit card holders.<sup>40</sup>

Jonathan Kriegel, CEO of DOCOMO Digital, says that “DCB adoption can help game developers and content providers realise incremental revenue opportunities by extending new market growth across different geographies, particularly those with low bank and credit card penetration.”

In its earliest iteration, prior to the advent of smartphones, DCB was used to purchase ringtones, wallpapers or register for contests. In the current scenario, where state-of-the-art smartphones enable an immersive mobile gaming experience, the implications for DCB usage are significantly greater. Mr Chung says that in many markets, particularly in Southeast Asia, DCB users have consistently shown an increase in ARPU. DCB users are considered “valuable” and “we expect to see more initiatives in the market to drive higher user penetration”.

Considering the proven increase in conversion rates, it is a win-win situation for all the three major stakeholders in the scenario – the gaming company, the gamer and the telecom operator. What DCB must also try and leverage on are biometric or facial recognition features offered on many mobile devices. Facial recognition is even more convenient to use than having to place a thumb or finger over a designated area on the phone. In essence, an in-game purchase that incorporates these elements can now be made seamlessly, without interruption, and all the while ensuring instant gratification.

Notwithstanding the many advantages DCB offers, Mr Sliwka is unsure of its role in driving revenue growth in the mobile gaming industry. He says DCB will become an important means of payment if it makes life for the gamer more convenient than the current payment options available in the market, but not otherwise.

<sup>32</sup> Statista. In-game consumer spending worldwide in 2015 and 2020. Available online at: <https://www.statista.com/statistics/558952/in-game-consumer-spending-worldwide/>

<sup>33</sup> Limelight Networks. The State of Online Gaming – 2019. Available online at: <https://www.limelight.com/resources/white-paper/state-of-online-gaming-2019/#security>

<sup>34</sup> Paylobby. China – E-wallet & mobile payment apps. Available online at: <https://pay-lobby.com/en/country/china>

<sup>35</sup> iGaming Business. Review of Video Gaming Payment Preferences. Available online at: <https://www.igamingbusiness.com/review-video-gaming-payment-preferences>

<sup>36</sup> YourStory. Go cashless with these top payment gateways in India. Available online at: <https://yourstory.com/2019/06/payment-gateways-india-paytm-razorpay>

<sup>37</sup> Black Shell Media. Top 5 Payment Processors in the Games Industry. Available online at: <https://blackshellmedia.com/2017/07/09/top-5-payment-processors-games-industry/>

<sup>38</sup> Ryder Systems. Direct Carrier Billing (DCB) – Transforming the Telco Industry. Available online at: <https://www.rydersystems.com/direct-carrier-billing-dcb-transforming-the-telco-industry/>

<sup>39</sup> IndianWeb2. 2019 Numbers: The Biggest Mobile Gaming Markets in the World. Available online at: <https://www.indianweb2.com/2020/01/13/2019-numbers-the-biggest-mobile-gaming-markets-in-the-world/>

<sup>40</sup> The Economic Times. Credit card usage rides on digital push, grows 27%. Available online at: <https://economictimes.indiatimes.com/industry/banking/finance/banking/credit-card-usage-rides-on-digital-push-grows-27/articleshow/70580357.cms?from=mdr>





# MULTIPLAYER PARTNERSHIPS THROUGH DCB

Mobile gaming is here to stay. There were 1.36bn gamers worldwide in 2019 and in only four years from now, there will likely be 1.7bn gamers – comprising more than a fifth of the total global population.<sup>41</sup> “Telecom operators, with their unparalleled access to large populations, are well-positioned to become active stakeholders in this fast-growing sector by leveraging on DCB deployments and subscription bundling,” says Mr Kriegel.

According to Mr Hawkins, they have not capitalised. DCB has been around for a while now, says Mr Hawkins, whose venture Digital Chocolate had direct billing arrangements with several large telcos when it launched in 2003. But he believes DCB was not able to reach its true potential in the past because of telcos outside of Japan and Korea, who thought it was a great idea to charge anywhere between 25% and 75% of the revenue<sup>42</sup>, making a mockery of the industry and the consumer in the process.

This resulted in a failure to forge strong partnerships. Moreover, DCB outside of Japan and Korea was slow to remove the friction in payment processes. “One of the things I found very frustrating was that we wanted to do micro-transactions like we saw them happen in Japan and Korea, but carriers elsewhere couldn’t do it. They didn’t have that capability.” He says they could handle major transactions through their store fronts, called the “carrier decks”, which were simple app stores typically built using WAP solution called “Brew”.

All these decks allowed was to browse through a simple set of lists, select something, pay a fee that would reflect in the phone bill, and download that thing. “And that was it. Once that thing was downloaded, it couldn’t talk to the network or talk to a billing system and allow you to buy more stuff that went with that application.” He adds that most carriers outside of Japan and Korea were “excruciatingly slow” in understanding the potential benefits of having more advanced billing systems, including micro-transactions.

The friction associated with micro-transactions is a major pain point when it comes to mobile gaming, according to practitioners. While wallets such as Google Pay remain a popular choice for in-game purchases, it is an onerous task to perform multiple micro-transactions. Mr Sliwka suggests the possibility of money being collected in a user’s wallet through DCB – a small lump sum from which money could be deducted, alleviating the need for multiple micro-transactions. Conversely, users could be offered the option of redeeming their in-game earnings into the wallet.

“Then you could also potentially offset your telecom bills,” Mr Sliwka says. In his view, DCB needs to make the entire payment experience easier. According to Ms Ng, telcos also need to ensure that there is no unauthorised charging through DCB, which is not uncommon. Often, telco customers—not just gamers—are unable to make a case for themselves because transaction logs indicate they have given their ‘consent’ for a transaction.

One problem that DCB is faced with is that merchants and telcos alike are often confused by how DCB works; and they are unaware that DCB is also an independent channel for payments, on top of Google Play (which has carrier billing too, as a payment method). Sometimes, both merchants as well as telcos are concerned of cannibalizing one channel with the other, but in reality, there is no element of cannibalizing involved. In fact, it just helps expand the customer base.

But these kinks are being addressed as industry stakeholders realise the power of DCB, particularly given the increasing number and frequency of transactions individuals now need to run on their mobile devices. It isn’t mobile gaming alone that requires one to transact, but also other kinds of subscriptions—whether for OTT media services or software services—and online purchases. In this context, simplifying the payment process and making it seamless is imperative to drive retention in a competitive marketplace.

Additionally, the growing scale of the mobile gaming opportunity is not lost on industry players, says Mr Kriegel. “Game developers, content providers and gaming streaming platforms can benefit greatly from partnering with telcos, mobile network operators and third-party payment service providers to extend both their reach and engagement with gamers and gaming audiences especially in emerging markets,” he adds.

Besides, high smartphone penetration and low debit and credit card usage in emerging markets makes these kinds of partnerships even more important for game developers and streaming service providers. “Emerging economies sit on the cusp of tremendous growth in the mobile gaming segment as they will see both, millions of new mobile gamers coming on board every year, as well as existing gamers spending more time playing, given improving mobile internet connectivity and data speeds,” says Mr Kriegel.

<sup>41</sup> Mobile Marketer. Mobile games sparked 60% of 2019 global game revenue, study finds. Available online at: <https://www.mobilemarketer.com/news/mobile-games-sparked-60-of-2019-global-game-revenue-study-finds/569658/>





## PARTNERSHIPS: WINNING WITH DIRECT CARRIER BILLING

Bouygues Telecom is a leading mobile operator in France with more than 16m mobile subscribers as of 2019. In 2013, the company was exploring additional revenue streams with a keen focus on increasing the digital uptake in its subscriber base. In order to do so, the telecom major was quick to identify the opportunity DCB offered.

Bouygues Telecom entered into a collaboration with DOCOMO Digital, and using its platform, Google carrier billing was implemented. It delivered the intended results, allowing users the convenience of purchasing digital goods and services over a secure interface. It was also a quick and cost-effective way to integrate with Google Play and Apple iOS app stores. Users could now buy games, apps, music, books and movies, with the sums credited to their mobile phone bills, and this helped increase revenues.

The collaboration also led to the offering of Spotify music services in 2016 and Netflix in 2017, giving Bouygues crucial first-mover advantage. This was possible because the carrier was able to introduce such services smoothly without having to form a separate division to spearhead development on the telecom side.

Considering the strides made in mobile gaming, Bouygues Telecom could witness continued growth. For example, France's mobile gaming ecosystem revenue is expected to increase from US\$600m in 2019 to US\$684m by 2024.<sup>42</sup>

The collaboration with a DCB enabler has allowed Bouygues Telecom to focus on its core competencies while enhancing customer retention and revenue. In simple terms, the organisation has been able to delegate payments and its associated pain points to DOCOMO Digital while continuing to do what it does best – ensure uninterrupted mobile network access.

<sup>42</sup> Statista. Mobile Games: France. Available online at:  
<https://www.statista.com/outlook/211/136/mobile-games/france>





## PARTNERSHIPS: THE GAMIFICATION OF EDUCATION?

The popularity of hyper-casual games can enable a rewarding synergy with the education sector. Gauging by current trends, this could well become a key source of revenue for gaming companies in the future. Gamification, as it is commonly termed, is using games as a means to accomplish a certain task or objective. It involves using game mechanics in otherwise non-gaming scenarios such as education or training to drive higher user engagement and boost problem-solving.

In regular grade school education, the school year begins with great enthusiasm, but as the term progresses, there is a marked decline in motivation, and the initial sense of excitement is lost. It is accompanied by growing distraction and disinterest. According to the 2016 Professor Pulse Survey, which was based on responses from 21,000 faculty members, the single biggest teaching challenge is "students not paying attention in class"<sup>43</sup>. Attention spans are low and are only likely to decrease further, implying there is a significant gap waiting to be plugged. Gaming is intrinsically an interactive activity and can drive greater engagement among students.

Meanwhile, forecasts for the education gamification market surpass all other segments. Education gaming is poised to deliver a CAGR of 66.2% between 2016 and 2020,<sup>44</sup> surpassing growth in other gaming sub-segments comfortably.

In an example of a partnership, in India, leading app-based education company Byju's counts Disney as an investor. The short-term outcome may be the likes of popular Disney characters such as Elsa teaching math to an elementary school student in the form of a game. With time, the possibilities are endless.

Mr Hawkins reinforces this, saying that brain scientists have for long maintained that the single best way to increase human intelligence is through interaction. With the greater acceptance of gaming as an education tool, coupled with the advances made in VR technology, classrooms may undergo a metamorphosis in coming years.

Gamification has all the ingredients to alleviate the problem of classroom inattentiveness and for gaming companies to realise this massive potential, a DCB collaboration may allow faster time to market and consequently, a superior competitive edge.

<sup>43</sup> Top Hat. The Top Tactics for Creating a More Engaged Classroom. Available online at: <http://offers.tophatlecture.com/rs/566-JGI-821/images/TopHat-TopTacticsForMoreEngagedClassroom.pdf>

<sup>44</sup> Research and Markets. Global Education Gamification Market 2016-2020. Available online at: [https://www.researchandmarkets.com/research/dmbvxf/global\\_education](https://www.researchandmarkets.com/research/dmbvxf/global_education)





# GAMING ENTRENCHMENT

The global gaming market is expected to continue growing in the near future. "The industry is in a really great position now. Everybody knows now what they need to do, and more of them are doing it; and that's resulting in better products for the consumer," says Mr Hawkins.

He adds: "I see an industry now that instead of being stuck as it was ten years ago, will get to US\$300bn, US\$400bn or US\$500bn – it's going to be a much bigger industry than anybody ever thought. And within that, when you talk about themes, certainly mobile is not finished yet." In fact, we're sitting on the cusp of some fundamental shifts that will alter the gaming landscape.

The mobile industry's steady growth has drawn numerous investors to gaming development, and it is now a mainstream industry. In addition to some of the prominent gaming companies such as King Digital Entertainment and Activision Blizzard, and industry veterans such as Electronic Arts and Nintendo, a number of large technology and electronics companies such as Microsoft, Tencent, Apple and Sony, crowd this space.

Investors in mobile gaming are also allocating capital towards building ancillary services that will boost in-game monetisation rates. Meanwhile, companies with a specific focus on e-sports are choosing to invest in gaming events, venues and participating teams. They are also keen on merchandising, sponsorship and media rights. In 2020, for instance, three-quarters of the expected US\$822.4m in aggregate e-sports revenues will be attributed to media rights and sponsorship.<sup>45</sup> "Rights for all the offline events could be another source of revenue," Mr Sliwka says.

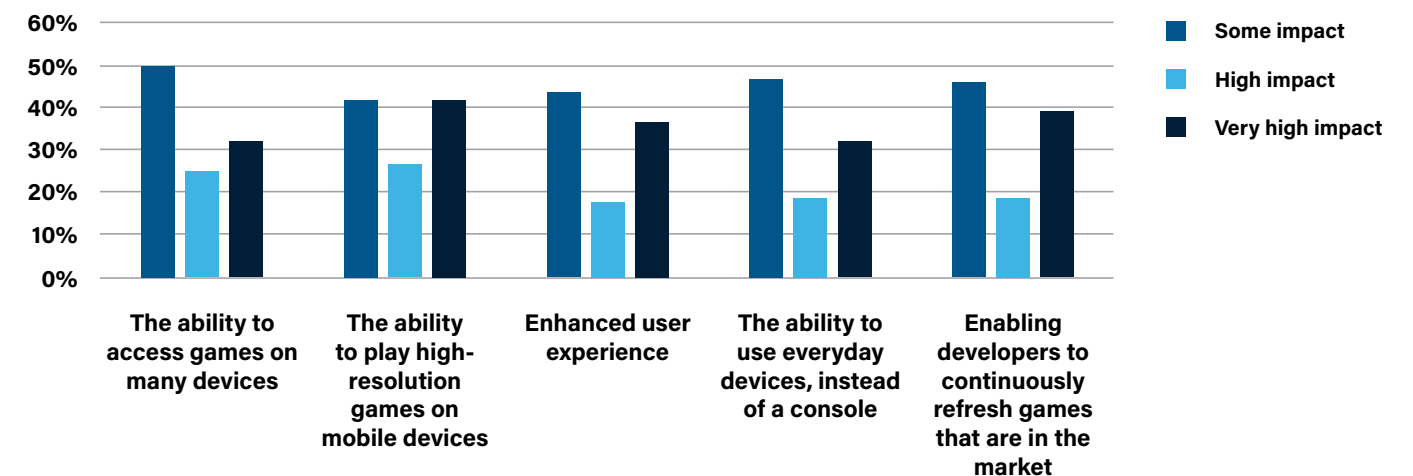
In the near future, potentially disruptive gaming platforms are likely to make an appearance. Cloud-based mobile gaming will become a dominant force too, complemented by the advent of 5G technology – and it could be the preferred route for major gaming industry leaders. The likes of Google Stadia and Microsoft Project xCloud will offer the ability to stream games to user's smartphones in 4K resolution – which means gamers may well be able to enjoy console-based gaming levels on their smartphones. A bonus is portability that consoles cannot readily offer.

Cloud-based gaming will enable Triple-A games to be played on mobile devices. Triple-A games are those that are produced by leading publishers and are backed by hefty development and marketing budgets.<sup>46</sup> The other kinds are commonly known as "indie games," although there are several instances when a cross-over offering is released. With cloud gaming likely the dominant gaming industry trend of the future, investors in the sector envisage a spike in investments in cloud-based or streaming platforms. "The cloud is everything. That's the one thing we can really count on which is going to keep growing, and it's going to encompass more of the everyday activities of everyone," remarks Mr Hawkins.

On the contrary, should major gaming companies discredit a transition to cloud-based games, they are likely to suffer a major setback soon enough. Cloud-based or streaming games will have a profound impact on how video games are distributed, sold and played.<sup>47</sup>

## Exhibit 4: The impact of the cloud

Cloud-based or streaming games will have an impact on:



Source: Ernst & Young

As with other entertainment industries, content is going to be critical in mobile gaming. Customer engagement and retention will depend on the **quality of content** on offer, particularly given the high degree of competition in the segment. In this regard, Shawn Toh, CEO and co-founder of Battlebrew Productions, a Singapore-based developer, says: "I think user-generated content will be a major factor in retention." This is the reason large game publishers are budgeting for significant marketing spends on their new launches.

While the industry remains well-placed for now, gaming companies must strategise now to sustain growth over the long term. The primary objective is to **increase ARPU**. Although users are making in-app purchases, there is great potential for registering increments using data analytics.

Given a large share of the global population is also unbanked, a DCB platform such as DOCOMO Digital could play a key role in realising higher ARPU by enabling consumers to spend more time, and money within the game experience, without the need for traditional payment instruments, with their mobile connections doubling-up as authentication mechanisms. "The segment will invariably see increased activity, and it is imperative for gaming companies to scale beyond their conventional markets and demographic segments by introducing new business models, in partnership with other providers in the mobile commerce ecosystem," Mr Kriegel says.

In addition, growth can also be achieved through closer **collaboration and partnerships**. Video game executives are of the opinion that there will be increased activity in this space as companies seek out valuable intellectual property and talent, while also gaining access to new markets and enhanced capabilities, particularly in the backdrop of the COVID-19 pandemic that has put pressure on the economy at large. Speaking of his outlook over the short-term, Mr Toh says that "COVID-19 just threw a spanner into the works of many studios, so I think we'll see some banding together in these tough times and collaborations on products and launches."

Staying competitive and relevant requires a substantial monetary commitment. Each year, back-office and infrastructure costs will increase for gaming companies, and in order to curtail costs, **automation** could well be a viable solution. It will enable streamlining of operations, and tasks such as game testing could be entrusted to entities. The one major concern echoed by a large subset of the gaming community is security around transactions, and can potentially be addressed using **blockchain technology** to prevent in-game fraud and cyber-attacks, thus instilling greater confidence in the industry.



<sup>45</sup> Newzoo. Newzoo Global Esports Market Report 2020. Available online at <https://newzoo.com/insights/trend-reports/newzoo-global-esports-market-report-2020-light-version/>

<sup>46</sup> GamingScan. What Is A Triple-A Game (AAA)? Available online at: <https://www.gamingscan.com/what-is-a-triple-a-game/>

<sup>47</sup> Ernst & Young. How is your business powering up for the next video gaming challenge? Available online at: [https://www.ey.com/Publication/vwLUAssets/2019\\_EYGamingReport/\\$FILE/ey-how-is-your-business-powering-up-for-the-next-video-gaming-challenge.pdf](https://www.ey.com/Publication/vwLUAssets/2019_EYGamingReport/$FILE/ey-how-is-your-business-powering-up-for-the-next-video-gaming-challenge.pdf)



## THE NEXT STAGE?

Most importantly, mobile gaming growth will be driven by the blurring of lines between the real and the virtual. "The distinction between the tangible and virtual is actually meaningless," says Mr Hawkins, and this is reflecting in an economic shift toward the virtual. The COVID-19 pandemic is speeding up this process. While the crisis has resulted in an adverse impact on much of the "real" economy, it has already contributed to a surge in the mobile gaming industry.

With almost four billion people in lockdown in early 2020, there has been a spectacular surge in mobile app downloads, including mobile games. People have been spending more and more time on their mobile devices as they grapple with the reality of having to entertain themselves at home, resulting in US\$23.4bn spent through app stores, the highest ever spend in a single quarter. In all, 31bn apps were downloaded, including 13bn mobile games (reflecting 30% quarter-on-quarter growth and 25% year-on-year growth). In the first three months of 2020, consumers also spent US\$16.7bn in mobile games, accounting for 65% of all consumer spending on iOS and 85% on Google Play Store.

Whether these behavioural changes are transient or enduring remains to be seen. They do, however, clearly provide a peek into the future – it is one that will be defined by a growing number of people spending more and more time on their mobile phones, likely trying to make their way to the next level of a video game, aspiring to perhaps participate in an e-sports tournament. A tournament that will soon become as popular as a mainstream talent show live television. Or just as the recent appearance of famous rap artist Travis Scott—in the virtual concert within Fortnite, that was watched live by 12m people—showed us, maybe that future is already here.



“ I see an industry now that instead of being stuck as it was 10 years ago, will get to US\$300bn, US\$400bn or US\$500bn – it’s going to be a much bigger industry than anybody ever thought... and certainly, mobile is not finished yet.”

**Trip Hawkins**, Founder and First CEO, Electronic Arts





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## ABOUT US

DOCOMO Digital is the mobile commerce-related business of NTT DOCOMO, one of the world's leading mobile carriers. We partner with carriers, merchants, app stores, OTT services and payment providers globally. Our Payments portfolio solves the challenges of scale, customer acquisition, regulation, and complexity for our partners. With teams based across twenty-five offices, we enable telecom carriers to grow their digital revenues while improving customer loyalty and lifetime value. For digital brands, our platform and carrier bundling services catalyse acquisition of new subscribers, especially in emerging markets. And Alternative Payment Methods (APMs) like carrier billing and e-wallets offer global merchants' access to their consumers, with our simple API and international payments' settlement facilities.

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