

# Video Games Industry in Pakistan: Evolution, Potential & Prospects

# Zahra Niazi

Researcher, Economic Affairs & National Development

Working Paper

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Edited by:
SARAH SIDDIQ ANEEL

Layout HIRA MUMTAZ

All correspondence pertaining to this publication should be addressed to CASS, through post or email at the following address:

# Centre for Aerospace & Security Studies

- cass.editor@gmail.com/
  cass.thinkers@gmail.com
- +92 051 5405011
- f cass.thinkers
- in Centre for Aerospace & Security Studies
- cassthinkers
- @CassThinkers

Old Airport Road, Islamabad, Pakistan www.casstt.com



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**Working Paper** 

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#### **Abstract**

The video games industry in Pakistan represents a rapidly emerging sector with the potential to contribute significantly to the country's economy at a time when the government is grappling with economic challenges. This industry has grown rapidly over the past few years and has been able to garner the attention of the private and public sectors, while the future prospects of its growth also appear promising. However, given its tremendous potential, it is paramount that the industry is developed and nurtured further and that the acceptance of gaming by users is catalyzed. In this context, the Working Paper aims to highlight the importance of the gaming sector as a legitimate industry that can provide significant opportunities for economic growth and employment generation in Pakistan. The paper focuses on the evolution and potential of Pakistan's video games industry, the factors that have led to its development and growth, and its future prospects. Lastly, it outlines several recommendations.

Keywords: Video Game Development, E-Sports, Video Games Industry.

#### Introduction

After decades of one-sided analysis associating video games with moral and psychological issues, the video games industry is finally receiving a welcoming response, particularly from policymakers and academics. This is attributed to the burgeoning amount of evidence that has been affirming rapid growth of the global video games sector and its role as a source of economic growth and value addition. According to the most commonly cited description, the 'video games industry' or the 'gaming industry' comprises of the sector associated with the development, publication, manufacture, distribution, and sale of video games. Within the industry, a developer produces the games which are then financed, promoted, and marketed by publishers and delivered to the retailers by the middlemen i.e., distributors. The retailers operating as either online stores or physical stores sell the games to the customers. Due to the rising popularity of e-sports or electronic sports, i.e., 'the competitive and organised video gaming', e-sports is also included as a component of the wider video games industry.<sup>2</sup>

Tracing the history of the industry, the launch of Pong by Atari in 1972 provided the initial stimulus to the sector which was further reinforced with the introduction of Space Invaders by Taito in the late 1970s.<sup>3</sup> Subsequently, the popularity of arcade games tremendously surged, thus, allowing this sector to generate profits that surpassed those of the box office in the early 1980s.<sup>4</sup> However, beginning in 1982, a decline across the industry was witnessed but the downturn was fortunately short-lived as Nintendo, a Japanese company, was able to release a home console, i.e., the Nintendo Entertainment System (NES) in 1985 and continued to make a mark in the industry.<sup>5</sup> In 1994, Sony released the first of its series of PlayStations while Microsoft

Zackariasson and Timothy L. Wilson, The Video Games Industry: Formation, Present State, and the Future (New York: Routledge, 2012).

Stefan Ludwig, Kim Lachmann, Jacob Papenbrock, and Sergi Mesonero, "Let's Play! 2021-The European Esports Market," *Deloitte*, October 20, 2021, https://www2.deloitte.com/us/en/insights/industry/telecommunications/esports-in-europe.html; Billie Gagné-LeBel, "What is Esports? 8 Facts You Should Know About the Industry," *Femme Gaming*, April 27, 2022, https://femmegaming.gg/8-facts-you-should-know-about-esports/.

Omri Wallach, "The History of the Gaming Industry in One Chart," *World Economic Forum*, November 27, 2020, https://www.weforum.org/agenda/2020/11/gaming-games-consels-xbox-play-station-fun/.

<sup>&</sup>lt;sup>1</sup> Ibid.

<sup>&</sup>lt;sup>5</sup> Ibid.

released the first Xbox console in 2001.<sup>6</sup> The period following the year 2001 was characterised by the rise of mobile phones and the Internet, which stimulated the popularity of mobile gaming and provided a significant impetus to the industry.<sup>7</sup> In terms of e-sports, the first gaming event was held in 1971 which helped kick start the domain of competitive gaming but progress was particularly fast-tracked with the rise of PC gaming and the Internet.<sup>8</sup>

The global video games industry has grown tremendously since its inception in the 1970s. In fact, it has become one of the fastest-growing industries across the globe. The global video games sector is forecasted to make a total revenue of USD 208.60 billion in 2022.9 Estimates suggest that this revenue could reach USD 304.70 billion in 2027 by recording an annual growth rate of 7.87%. The segment of e-sports is expected to reach USD 2,174.8 million in 2023 from USD 694.2 million in 2017 recording an annual growth rate of 18.61%. The segment of 2017 recording an annual growth rate of 18.61%.

Similarly, several compelling success stories from the video games industry in Pakistan are also emerging, manifesting the enormous potential of this industry to contribute to economic growth and employment generation. However, a holistic overview of this industry from the context of Pakistan is absent in the present academic literature despite the emergence of evidence suggesting a positive contribution of the industry in terms of revenue generation. Thus, an understanding of the potential of Pakistan's video games industry only remains in the knowledge of a few. Therefore, this research study aims to highlight the importance of the gaming sector as a legitimate industry that can provide opportunities for economic growth and employment generation in Pakistan. Noteworthy in this study is the inclusion of both domains of the video games sector, including 'e-sports' and 'video game development.' The distinction between and inclusion of the two domains was considered necessary as literature from the context of Pakistan either focuses on one

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Hiro Izushi and Yuko Aoyama, "Industry Evolution and Cross-Sectoral Skill Transfer: A Comparative Analysis of the Video Games Industry in Japan, the United States, and the United Kingdom," *Environment and Planning* 38, no. 10 (2006): 1843-1861.

Wallach, "The History of the Gaming Industry In One Chart."

<sup>8</sup> Ihid

<sup>&</sup>quot;Video Games," Statista, 2022, https://www.statista.com/outlook/dmo/digital-media/video-games/worldwide.

<sup>10</sup> Ibid.

Markets and Markets, "Esports Market by Revenue Streams and Geography-Global Forecast to 2023," https://www.marketsandmarkets.com/Market-Reports/esports-market-123759465.html.

aspect or fails to make a distinction between the two, thus leading to conceptual ambiguity. The remainder of the *Working Paper* is structured as follows. First, it details the evolution and potential of Pakistan's video game development and the e-sports industry. It then highlights the major facilitating factors contributing to the rise and growth of this industry in Pakistan and analyses its future prospects. Finally, it outlines several policy recommendations that can help the country fully exploit the potential of its gaming industry and allow the latter to compete internationally.

# **Evolution & Potential of Pakistan's Video Games Industry**

The advent of video game development in Pakistan dates back to the early 2000s when local game-production studios were established, which introduced indie PC titles and mobile games. 12 It was a period when teenagers who had first-hand experience of playing video games grew into young adults. 13 Around this time, three major gameproduction studios were established, which included Trango Interactive and Fork Particle in Islamabad and Wireframe Interactive in Lahore. 14 Besides working on their own projects including developing indie PC titles and mobile games, these studios also created AA/AAA content (high profile and high budget games) for big publishers such as Sega, THQ, Midway, Eidos Interactive, and Sony. 15 This tremendous success was followed by the advent of digital app development in Pakistan led by the introduction of the commercial video game called the 'Cricket Revolution'. Launched in 2009, Cricket Revolution was developed by a Lahore-based start-up, Mindstorm Studios, and chosen as the 2011 Cricket World Cup's official online game. 16 Around this time, the rising penetration of smartphones and internet broadband connectivity was irrevocably changing the digital space. This also diversified the gaming landscape in Pakistan by leading to the proliferation of mobile and browser studios, with we'R'play, Caramel Tech, and Tintash being some of the big names. 17

The gaming industry in Pakistan has made tremendous progress since its inception in the early 2000s. According to an industry insider, there are around 200 gaming studios in the country today. A study by the International Game Developers Association (IGDA) reports that approximately 12,000 to 15,000 individuals are working in the gaming industry, which has been generating an annual revenue of USD 25 million. The products being produced by these gaming studios have been reaching various corners of the world.

Wajhi Jafri, "State of Play: Is Videogame Development on the Rise in Pakistan," *Dawn*, April 30, 2019, https://www.dawn.com/news/1475376.

<sup>13</sup> Ihid

International Games Developers Association, "Chapter Spotlight: IGDA Pakistan," December 5, 2018, https://multibriefs.com/briefs/igda/IGDA120518.php.

<sup>15</sup> Ibid.

<sup>&</sup>quot;Gaming Industry-The Next Big Thing in Pakistan," MMNews, December 5, 2020, https://mmnews.tv/gaming-industry-the-next-big-thing-in-pakistan/.

<sup>&</sup>lt;sup>17</sup> Jafri, "State of Play."

<sup>&</sup>lt;sup>18</sup> "Huge Income Opportunities for Youth in Gaming Industry," *ECONOMY.PK*, December 6, 2021, https://www.economy.pk/huge-income-opportunities-for-youth-in-gaming-industry/.

<sup>&</sup>lt;sup>19</sup> Ibid.

In fact, gaming companies in the country have been making noteworthy accomplishments, which are a testament to the tremendous growth and potential of Pakistan's gaming industry. For instance, founded in 2010 by Wagar Azim and Mohsin Ali Afzal, the we'R'play developed a well-known game called the 'Dream Chaser', which earned the privilege of being published by a notable game publisher on iOS the Chillingo.<sup>20</sup> The games developed by the studio have been downloaded 5 million times from numerous platforms and categorised as 'New & Noteworthy' and 'Best New Games' by Google and Apple stores.<sup>21</sup> Likewise, Caramel Tech was established by the brothers Ammar and Saad Zaeem in 2011 and earned the privilege of interacting with renowned studios including Halfbrick and Kabam for the development of megahits such as 'Jetpack Joyride' and 'Fruit Ninja.'22 It has also been able to develop strong partnerships with some other big names in the international gaming industry such as Scopely, Electronic Arts (EA), and Big Fish Studios, and earned USD 12 million investment from the international market.<sup>23</sup> Similarly, Tintash - a Lahore-based company - also gained credit for developing games for some of the big names such as HalfBrick Studios, iWin, Playfirst, Digital Chocolate, and Sandlot Games.

Likewise, GenlTeams, a Lahore-based gaming business, is an award-winning game and mobile app development company that has also been rated among the top Asian companies by Red Herrings (2012).<sup>24</sup> Another Lahore-based company, Game View Studios, has had the credit of producing some top playstore and app store titles such as 'Tap Ranch', 'Tap Fish', and 'Tap Town', and has been acquired by one of the renowned gaming companies in Japan - DeNa.<sup>25</sup>

In addition, besides launching the popular video game 'Cricket Revolution' in 2009, Mindstorm studios also developed the game 'Whacksy Taxi' which earned the status of being the No. 1 game in more than 20 countries.<sup>26</sup> Moreover, a Pakistani-based start-up WonderTree has been developing games for children with disabilities in order

<sup>&</sup>lt;sup>20</sup> "Pakistan's Gaming and Animation Industry," *Mag The Weekly*, August 3, 2018, https://magtheweekly.com/detail/3596-pakistans-gaming-and-animation-industry.

Techhouse Games, "Top 5 Game Development Companies in Pakistan," May 25, 2021, https://techousegames.com/top-game-development-companies-pakistan/.

House of Pakistan, "Mobile Game Development in Pakistan," April 27, 2022, https://houseofpakistan.com/mobile-game-development-pakistan/.

<sup>&</sup>lt;sup>23</sup> Techhouse Games, "Top 5 Game Development Companies in Pakistan."

GenITeam, "About Us," https://geniteam.com/aboutus/.

<sup>&</sup>lt;sup>25</sup> Irfan Husain, "Pakistani Game Developers working in Giant Companies," *pakwired*, March 28, 2015, https://pakwired.com/pakistani-game-developers-working-in-giant-companies/.

House of Pakistan, "Mobile Game Development in Pakistan."

to help them develop their cognitive and motor skills. This initiative led WonderTree to be selected by the UNICEF Innovative Fund in 2020 and by Google for its accelerator programme on Sustainable Development Goals.<sup>27</sup>

Some individual game developers have also made their mark in the industry. For instance, Shahmeer Chaudhry, an independent game developer, began developing games at the age of 13 in 2013. By 2016, he was able to develop his first-ever game for PC called 'Apartment 666.'28 Another game developer - Farhat Salim - introduced hits including 'Ryse: Son of Rome', '2013', and 'Crysis 1, 2, and 3.'29 Moreover, Shahid Ahmed - a major part of Sony Entertainment System - is known for his significant contribution to Sony's categorisation as an Indie Game Developer.<sup>30</sup> He also won the 'Develop Industry Excellence Award' in 2014.

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30 Ibid.

<sup>&</sup>lt;sup>27</sup> "Pakistani start-up WonderTree picked by Google, UNICEF for Investment," *Express Tribune*, August 10, 2020, https://tribune.com.pk/story/2258899/pakistani-startup-wondertree-picked-by-google-unicef-for-investment.

<sup>28 &</sup>quot;17-year old Pakistani develops PC Game and it's a Horror One," Express Tribune, August 24, 2016, https://tribune.com.pk/story/1169131/17-year-old-pakistani-developer-launches-first-ever-horror-game-pc?amp=1.

Alyshai, "Here's why Pakistan is Missing Out on the \$180 Billion Gaming Industry," *ProPakistani*, January 26, 2022, https://propakistani.pk/2022/01/26/heres-why-pakistan-is-missing-out-on-the-180-billion-gaming-industry/.

## **Evolution & Potential of Pakistan's E-Sports Industry**

The e-sports industry in Pakistan is relatively new but has grown significantly since its initial rise. Syed Sumail Hassan, Yawar Hassan, and Arslan Ash are some of the earliest faces of Pakistan's e-sports industry. In 2015, Syed Sumail Hassan became the youngest player to win USD 1 million in Dota 2 in 2015.<sup>31</sup> Arslan Ash bagged the title of becoming the 'ESPN e-sports Player of the Year' in 2019 by winning EVO USA and Japan.<sup>32</sup> Following their footsteps, many Pakistani players started making their mark in games such as 'Tekken', 'Call of Duty', 'PUBG', 'CSGO', 'Free Fire', 'Valorant', 'Counter-Strike', and 'Need for Speed', among others.

Today, Pakistani e-sports players have been earning tremendous amounts, which is a testament to the potential of Pakistan's e-sports sector. In this regard, Sumail Hassan is currently the topmost earner with total earnings amounting to USD 3,617,984,<sup>33</sup> followed by Yawar Hassan, a Dota 2 player, and Arslan Ash which add up to USD 432,911 and USD 82,556, respectively.<sup>34</sup> Shredded Puzzle, an Auto Chess player, and Awais Honey, a Tekken player bag the fourth and fifth positions having earned USD 50,000 and USD 18,992, respectively.<sup>35</sup> Bilal Ilyas, a Tekken player has earned USD 15,365; Adam9130 (Adam Ahmad), a CSGO player has earned USD 8,242; and Bad Sunny, Godzilla, and Saif 4U, Free Fire players have earned USD 8,000, each.<sup>36</sup> These are a few known names in Pakistan's e-sports industry, but the total number is much higher. Pakistan was ranked 29<sup>th</sup> in terms of e-sports earnings in the 2021 rankings, and as of December 2021, there were 278 local e-sports players in the country.<sup>37</sup>

Moreover, some Pakistani YouTubers and game streamers have joined the e-sports community by uploading gaming live streams and relevant content. For example, a Pakistani Youtuber Saad Ur Rehman, popularly known as Ducky Bhai, owns a gaming

Osama Qadri, "Gamers of the Future: Does Esports have a Future in Pakistan?" *Geo News*, December 7, 2021, https://www.geo.tv/latest/386299-gamers-of-the-future-does-esports-have-a-future-in-pakistan.

<sup>32</sup> Ibid.

Usman, "10 of the Highest-Earning Pakistani E-Sports Gamers," *brandsynario*, February 12, 2022, https://www.brandsynario.com/10-of-the-highest-earning-pakistani-e-sports-gamers/.

<sup>34</sup> Ibid.

<sup>35</sup> Ibid.

<sup>36</sup> Ibid.

Aasil Ahmed, "Pakistan Ranked among the Top 30 Countries for E-Sports Earnings," *ProPakistani*, December 6, 2021, https://propakistani.pk/2021/12/06/pakistan-ranked-among-top-30-countries-for-e-sports-earnings/.

channel called 'Ducky Bhai Extra', where he live streams his PUBG matches.<sup>38</sup> Likewise, Shahmeer Abbas owns a gaming channel called 'Shahmeer Ultra', which has 85,000 subscribers.<sup>39</sup> Ducky Bhai and Shahmeer Abbas have earned USD 4,000 and USD 1,000 through their gaming channels, respectively.<sup>40</sup> Another YouTuber, Qaiser Khan, does live streaming on YouTube while playing free roam games like 'Grand Theft Auto V' and has over 95 thousand subscribers on his YouTube channel.<sup>41</sup> KhanSaab69 is another YouTuber whose video game live streaming gets over 10 million views.<sup>42</sup> A female YouTuber named Amber Iqbal is also one of the leading gaming streamers of PUBG and has 133, 000 subscribers on her channel.<sup>43</sup>

The exponential growth and potential of the e-sports industry in Pakistan can also be gauged by the fact that the industry was able to attract the attention of the Federal Government and the provincial government in Khyber Pakhtunkhwa. The Government of Pakistan (GoP) took a significant step by recognising 'e-sports' as an industry. In July 2021, the Federal Government officially recognised and embraced e-sports through its initiative called the 'E-Pak', which works with game developers to launch gaming events in Pakistan.<sup>44</sup> In March 2022, the country held its first-ever interuniversity competition on the national stage, i.e., the 'Free Fire Campus Championship.'<sup>45</sup> Moreover, the 'Supreme Galactic League', the country's first professional e-sports league is scheduled to be held between August and October 2022.<sup>46</sup> Prior to this, in 2018, the Khyber Pakhtunkhwa government has also recognised 'e-gaming' as a sport.<sup>47</sup> Pakistan's first 'KP Electronic Sports Tournament' was organised in February 2018 at the Peshawar Sports Complex and received a positive response from the public.<sup>48</sup>

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Rauf Chaudhry, "Famous Pakistani YouTube Vloggers Turns Esports Gamers," *TotalsPortal*, April 8, 2022, https://www.totalsportal.com/games/pakistani-youtubers-become-esports-gamers/.

<sup>39</sup> Ibid.

<sup>40</sup> Ibid.

Syed Haris Shah, "The Thriving Esports Industry of Pakistan," *Paradigm Shift*, March 27, 2022, https://www.paradigmshift.com.pk/esports-industry-pakistan/.

<sup>42</sup> Ibid

<sup>43</sup> Ibid.

Swaira Shabir, "Pakistan Government Officially Embraces Esports with Free Fire League," *Technology Times*, July 20, 2021, https://technologytimes.pk/2021/07/20/pakistan-government-officially-embraces-esports-with-free-fire-league/.

<sup>45</sup> Ibid

Radina Koutsafti, "Galaxy Racer announces New Esports League in Pakistan," *E-sports Insider*, April 5, 2022, https://esportsinsider.com/2022/04/galaxy-racer-supreme-galactic-league-pakistan/?amp.

Abdaal Ali, "The Rise of Online Gaming Culture," *Phonespropk*, February 15, 2021, https://phonespropk.com/the-rise-of-online-gaming-culture/.

<sup>&</sup>lt;sup>48</sup> Ibid.

## Rise of Video Games Industry in Pakistan: Major Factors

This section explores the various factors that have led to a booming video games industry in Pakistan:

Government's Penetration of Pakistan's Official Internet & Young Recognition of **Smartphones** Demography E-sports **Technological** COVID-19 **Private Sector** Advancements **Pandemic** Initiatives Perception of Gaming

Figure 1: Rise of Video Games Industry in Pakistan: Major Factors

Source: Author's own.

#### A. Penetration of Internet & Smartphones

The increasing ownership of smartphones and rising internet broadband connectivity provided a significant push to the gaming industry by enhancing the demand and consumption of video games, allowing for a rapid diffusion of mobile games, enhancing profitability for game developers, and fueling the popularity of e-sports. In 2000, the number of mobile subscriptions in Pakistan was 0.31 million; today, the figure has risen to 175.62 million.<sup>49</sup> According to the Annual Report (2020-21) of the Pakistan Telecommunication Authority (PTA), smartphones now outnumber 2G sets in Pakistan.<sup>50</sup> Moreover, around half of the country's population has access to the Internet on a daily basis today,<sup>51</sup> and the total number of users continues to rise.

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<sup>&</sup>quot;Number of Mobile Cellular Subscriptions in Pakistan from 2000 to 2020," Statista, 2021, https://www.statista.com/statistics/501049/number-of-mobile-cellular-subscriptions-in-pakistan/.

Pakistan Telecommunication Authority, *Annual Report 2021*, report (Islamabad: Pakistan Telecommunication Authority, Government of Pakistan, 2021), https://www.pta.gov.pk/assets/media/pta\_annual\_report\_2021\_01032022.pdf.

<sup>&</sup>quot;Country's Internet Penetration stands at 54%," Express Tribune, July 30, 2021, https://tribune.com.pk/story/2312994/countrys-internet-penetration-stands-at-54.

Between 2021 and 2022 alone, the number of internet users in Pakistan increased by 22 million, which represents a 35.9% jump.<sup>52</sup> Between 2020 and 2021, this figure rose by 11 million, which is a 21% increase.<sup>53</sup>

#### B. Pakistan's Young Demography

A significant proportion of Pakistan's population comprises of youth, with individuals below the age of 30 making up 64% of the country's total population.<sup>54</sup> In fact, the country has one of the highest proportions of Generation Z, or 'zoomers',<sup>55</sup> which is the demographic cohort that is bankable, has the highest gaming engagement and is more likely to take an interest in watching/playing e-games. This has facilitated the growth of the gaming industry by increasing the proportion of the target audience as well as individual e-sports players. According to estimates on video game industry demographics in Pakistan, 44% of the individuals engaged in gaming-related activities are between the ages of 18 and 24, while 43.1% of them represent the age group category of 25-34 years.<sup>56</sup>

#### C. Government's Official Recognition of E-sports

As already highlighted, the Federal Government took a noteworthy step in 2021 by officially recognising and embracing e-sports through its initiative called 'E-Pak', which works with game developers to launch gaming events in Pakistan.<sup>57</sup> This has helped provide a major impetus to the e-sports sector and appears to have driven an increased amount of visibility to this area in the electronic and print media as well.

#### **D. Private Sector Initiatives**

The private companies in Pakistan have also stepped in to facilitate and push the esports sector. As a case in point, companies including PepsiCo and Telenor created

Simon Kemp, "Digital 2022: Pakistan," Datareportal, February 16, 2022, https://datareportal.com/reports/digital-2022-pakistan.

Simon Kemp, "Digital 2021: Pakistan," Datareportal, February 11, 2021, https://datareportal.com/reports/digital-2021-pakistan.

Ali Rehmat Shimshali, "Youth as National Dividend," *News International*, May 27, 2021, https://www.thenews.com.pk/print/840454-youth-as-national-dividend.

Bilal Hussain, "Tapping E-Sports Market to Curb Dollar Outflows in Gaming," *News International*, April 6, 2022, https://www.thenews.com.pk/print/947807-tapping-e-sports-market-to-curb-dollar-outflows-in-gaming.

Intenta Digital, "Video Game Industry: Statistics, Demographics, and Trends in Pakistan," https://intenta.digital/gaming-industry/video-game-industry-pakistan/ [Accessed 5 September 2022].

<sup>57</sup> Shabir, "Pakistan Government Officially Embraces Esports with Free Fire League."

the Mountain Dew Gamers Arena in 2018, which organises numerous video game contests annually.<sup>58</sup> These, for instance, included competitions for CSGO, Dota 2, and PUBG. Likewise, GameBirdPK also hosts tournaments and events intending to facilitate the e-sports industry in the country.<sup>59</sup> Additionally, ESN is Pakistan's first organisation dedicated to e-gaming. The organisation of tournaments like 'Gaming Summit 17' by ESN played an instrumental role in mobilising youth in the e-sports sector.<sup>60</sup> GameRED is another company that has embarked on the journey towards introducing their first e-sports tournament called the 'Valorant Infinity Cup.'<sup>61</sup> Moreover, Galaxy Racer, a UAE-based company, recently partnered with Fakhr-e-Alam to expand Pakistan's e-sports industry.<sup>62</sup> Galaxy Racer aims to host gaming tournaments and events in Pakistan.

#### E. COVID-19 Pandemic

A marked shift in the behavioral patterns of people was witnessed throughout the globe during the initial phases of the COVID-19 pandemic as schools, colleges, universities, and spaces for recreation closed, numerous physical sporting events were canceled, and gatherings were severely limited. In these circumstances, the gaming industry witnessed a surge in the number of players. Throughout the first half of 2020, e-sports companies grew in prominence and in fact, suffered the least from the fall in the markets.<sup>63</sup> Likewise, in Pakistan, online gaming appeared to be on the rise following the outbreak of COVID-19,<sup>64</sup> which led the video games industry to reach new heights.<sup>65</sup>

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<sup>&</sup>lt;sup>58</sup> "Rise in Demand, Popularity for E-sports," *Nation*, November 21, 2021, https://nation.com.pk/amp/2021/11/21/rise-in-demand-popularity-for-e-sports/.

Khayyam Jafri, "The Growing Interest & Demand for eSports in Pakistan," *SK Nexus*, June 6, 2021, https://www.sknexus.com/the-best-esports-in-pakistan/.

<sup>60</sup> Ibid.

<sup>&</sup>lt;sup>61</sup> "Evolving the Esports Landscape of Pakistan," *ProPakistani*, October 15, 2021, https://propakistani.pk/2021/10/15/evolving-the-esports-landscape-of-pakistan/amp/.

Ali Ahmed, "With UAE Company's Backing, Pakistan set for Bigger Share of '\$300-Billion' Industry," *Business Recorder,* January 28, 2022, https://www.brecorder.com/news/amp/40150419.

M. Angeles Lopez-Cabarcos, Domingo Ribeiro-Soriano and Juan Pineiro-Chousa, "All that Glitters is not Gold. The Rise of Gaming in the COVID-19 Pandemic," *Journal of Innovation and Knowledge* 5, no. 4 (2020): 289-296.

Osama Qadri, "Why E-Sports is Struggling in Pakistan?" *Global Village Space*, November 16, 2021, https://www.globalvillagespace.com/a-tale-of-struggling-of-e-sports-in-pakistan/.

Omer Qureshi, "Stuck Home? Fire Up the Consoles," *Tribune Magazine*, October 17, 2021, https://tribune.com.pk/story/2324926/stuck-home-fire-up-the-consoles.

#### F. Technological Advancements

Rapid technological advancements are also playing a significant role in driving the growth of the gaming industry. These advancements have been helping to accelerate game development and production stages, triggering innovation in content, and improving people's experiences of playing games.

#### **G.** Perception of Gaming

The often cynical perception of people toward gaming appears to be changing over time. The present generation of Pakistani society has developed a relatively more positive outlook toward online gaming as parental involvement in, and support for children's gaming activities is steadily increasing. However, this does not suggest that people's perceptions have become predominantly positive. Rather, it is only in relative terms that people have begun to develop positive attitudes towards online gaming.

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Imran Khan, "State of Gaming in Pakistan," *IGN Pakistan,* July 7, 2022, https://pk.ign.com/ps5/184935/feature/state-of-gaming-in-pakistan.

## Future of Video Games Industry in Pakistan

The future of Pakistan's gaming industry looks promising and holds tremendous potential to contribute to the country's economy. According to estimates, the revenue generated by the video games industry could reach USD 227.40 million in 2026 recording an annual growth rate of 2.17% from 2022-26.67 Moreover, the number of gamers is expected to touch 50.9 million in 2026 from 36.8 million in 2022.68 Several factors are likely to contribute to this expansion of the gaming industry in the country.

The number of young people is forecasted to continue rising in Pakistan till 2050.69 This demographic segment will help expand the market further in the future. In addition, internet penetration in the country has recorded a significant increase between 2020 and 2022 - a trend that is likely to witness the same pace. For reference, between 2021 and 2022 alone, the number of internet users in Pakistan increased by 22 million, which represents a 35.9% jump.<sup>70</sup> Between 2020 and 2021, this figure rose by 11 million, which represents a 21% increase.<sup>71</sup> Furthermore, the Global System for Mobile Communications (GSMA) has reported that while Pakistan will have a low smartphone usage relative to the Asia-Pacific countries, the percentage of smartphone users in the country will grow to 74% in 2025 from 51% in 2021.<sup>72</sup> The aforementioned trends will help provide a major boost to the industry.

Moreover, the gaming industry will likely continue attracting support and funding from the private and public sectors as gaming becomes more popular. The government's official recognition of e-sports already represents a significant shift in policymakers' perception - a shift away from perceiving video games as a source of potential adverse effects towards acknowledging them as a potential contributor to economic growth and value addition.

<sup>67</sup> Intenta Digital, "Video Games Industry: Statistics, Demographics, and Trends in Pakistan."

UNICEF, Generation Unlimited-Investing in Pakistan's Young People, report (Islamabad: United Nations Children's Fund, 2021),

https://www.unicef.org/pakistan/media/3311/file/Generation%20Unlimited%20-%20Investing%20in%20Pakistan's%20Young%20People.pdf.

Kemp, "Digital 2022: Pakistan."
 Kemp, "Digital 2021: Pakistan."

<sup>72</sup> GSMA, The Mobile Economy Asia Pacific 2021, report (London: Global System for Mobile Communications, 2021), https://www.gsma.com/mobileeconomy/wpcontent/uploads/2021/08/GSMA\_ME\_APAC\_2021\_Web\_Singles.pdf.

Furthermore, the Information Technology (IT) industry is one of the major growing tech sectors in Pakistan and is expected to continue to grow.<sup>73</sup> According to Pakistan Economic Survey (2020-21), IT-related services in the country marked a Compound Annual Growth Rate (CAGR) of 18.5% during the fiscal year.<sup>74</sup> The growth in the IT industry can be expected to converge with the growth in the video games sector as the two remain inextricably linked.

In addition, initiatives have been taken to enhance the talent pool of game developers in Pakistan, which will help the industry grow further. For instance, in 2022, Google launched the first Gaming Growth Lab in Pakistan, which allowed young talent to get direct experience with multiple Google platforms such as Ads, Play Cloud, and AdMob.<sup>75</sup> Following this, Google introduced the first knowledge-sharing event in Pakistan regarding game development. These proved to be huge successes. For instance, a gaming studio - MicZon - was able to record 35% higher downloads of their designed apps following graduation from the Gaming Growth Lab.<sup>76</sup> In addition, institutes such as PixelArt Game Academy, Habib University, and Institute for Arts and Culture have now begun to offer specialised programmes in game development and design and facilitate students in acquiring internships within the industry.<sup>77</sup> Such initiatives can play an instrumental role in polishing the current and future pool of game developers.

Bol, "Sector Profile Tech (IT and IT Enabled Services)," report (Islamabad: Board of Investment, Government of Pakistan), https://invest.gov.pk/sites/default/files/inline-files/IT.pdf.

MoF "Pakistan Economic Survey 2020-21," report (Islamabad: Ministry of Finance, Government of Pakistan, 2021), https://www.finance.gov.pk/survey\_2021.html.

Usman Alam, "Google Nurturing the Gaming Industry in Pakistan," *TechJuice*, June 30, 2022, https://www.techjuice.pk/google-nurturing-the-gaming-industry-in-pakistan/.

<sup>76</sup> Ibid

<sup>&</sup>lt;sup>77</sup> Intenta Digital, "Video Games Industry: Statistics, Demographics, and Trends in Pakistan."

#### **Conclusion & Recommendations**

In conclusion, the e-gaming industry is a rapidly emerging sector in Pakistan. The study has highlighted the importance of this sector as a legitimate industry that can provide opportunities for economic growth. Growing internet broadband and smartphone penetration in households, increased support from the public and private sectors, a growing proportion of young adults, and growth in the IT industry are expected to be among the elements that will allow the revenue from e-sports and game development sectors to continue to grow. However, given the immense potential of the vibrant gaming industry, it is time for policymakers to adopt additional policy measures to fully exploit its potential and allow the industry to compete regionally and internationally.

**First,** video game developers must be provided easy access to funding and tax credits to ensure they do not move to locations outside the country where they might have greater incentives to develop games. This also necessitates strengthening intellectual property rights laws or developing a gaming-specific intellectual property policy to ensure that the developers have higher incentives to introduce innovation in video games development.

**Second,** it is paramount that e-sports players are provided with the necessary funds and sponsorships. In August'22, Pakistan's Dota 2 team was not provided with official support or sponsorship to cover the expenses for competing in the Birmingham Commonwealth Games, which resulted in a lost opportunity for Pakistan.<sup>78</sup> Ideally, the public and private sectors need to develop partnerships to fill these funding gaps.

**Third,** official data and statistics with regards to the growth and size of the gaming industry and the role of this industry as a source of economic growth and income generation should be regularly updated and publically disseminated to counter the negative cultural perceptions associated with online gaming. It is vital that the government also steps in to provide official data that tracks the annual growth of the industry over time as official governmental statistics on the contribution of the gaming

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Mythica, Twitter Thread, August 2, 2022, 4:10 PM, https://twitter.com/mythicaval/status/1554424281035071489; Daniyal Mansur | SALT Hydra, Twitter Thread, August 2, 2022, 9:10 PM, https://twitter.com/SaltHydra/status/1554499883503165441?cxt=HHwWgoC9-Y3a2JIrAAAA.

industry remain absent. This will also help the industry attract further support and funding from the private sector.

**Fourth,** there exists a never-ending debate that links video games with aggression and violence, <sup>79</sup> poor academic performance, <sup>80</sup> or lower mental and physical health status, <sup>81</sup> among other aspects. These concerns are valid and need to be addressed alongside. Games could be a powerful source of learning and positive training, and a means of improving well-being. Perhaps, the need of the time is to encourage a shift towards the greater development of and engagement in such video games to ensure that the strategic potential of the gaming industry is capitalised. Locally produced research work should also focus on the cognitive and other mental or social well-being benefits associated with engagement in constructive or relaxing video games to address the negative perceptions related to gaming and increase its acceptance among people.

**Fifth,** efforts to improve the skills of game developers and e-sports players should be accelerated (perhaps through a partnership between the government and the private sector), which can have a marked impact on the gaming industry. The outcomes associated with Google's recent initiative aimed at enhancing the talent of game developers in Pakistan indicate the tremendous impact such projects can have. It is also paramount that all initiatives intended for talent development provide equal opportunities to both genders.

**Sixth,** students with the potential to excel in video game development or e-sports should be encouraged and facilitated in accessing relevant platforms where they can

Lillian Bensley and Juliet Van Eenwyk, "Video Games and Real-Life Aggression: Review of the Literature," *Journal of Adolescent Health* 29, (2001): 244-257; Paul Boxer, Christopher L. Groves and Meagan Docherty, "Video Games Do Indeed Influence Children and Adolescents' Aggression, Prosocial Behaviour, and Academic Performance: A Clearer Reading of Ferguson (2015)," *Perspectives on Psychological Science* 10, no. 5 (2015): 671-673.

Jancee Wright, "The Effects of Video Game Play on Academic Performance," Modern Psychological Studies 17, no. 1 (2011): 37-44.; Boxer, Groves, and Docherty, "Video Games Do Indeed Influence Children and Adolescents' Aggression, Prosocial Behaviour, and Academic Performance: A Clearer Reading of Ferguson (2015)."

Vega González-Bueso, Juan José Santamaria, Daniel Fernández, Laura Merino, Elena Montero and Joan Ribas, "Association between Internet Gaming Disorder or Pathological Video-Game Use and Comorbid Psychopathology: A Comprehensive Review," *International Journal of Environmental Research and Public Health* 15, no. 4 (2018): 668; Vincent Huard Pelletier, Arianne Lessard, Florence Piché, Charles Tétreau and Martin Descarreaux, "Video Games and their Association with Physical Health: A Scoping Review," *BMJ Open Sport & Exercise Medicine* 6, no. 1 (2020).

demonstrate their talents and skills to ensure that their potential does not remain untapped.

The aforementioned measures, if adopted in full letter and spirit, can perhaps allow the country to better exploit the potential that its video games and e-sports industry holds.

#### **ABOUT THE AUTHOR**



Zahra Niazi is a Researcher in the Economic Affairs & National Development programme at the Centre for Aerospace & Security Studies (CASS), Islamabad, Pakistan. She holds a Masters in Development Studies, with majors in Peace, Conflict and Development, from the National University of Sciences and Technology (NUST), Pakistan. Her research interests include Sustainable Development, Peace and Development, and Development Economics.

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