

## Will Gamers Embrace 5G? Insights from Experts

Mohan Albert <sup>1</sup>, Magiswary Dorasamy <sup>1\*</sup>, Kamarulzaman Ab. Aziz <sup>2</sup>

<sup>1</sup> Faculty of Management, Multimedia University, Cyberjaya, Malaysia

<sup>2</sup> Faculty of Business, Multimedia University, Melaka, Malaysia

*magiswary.dorasamy@mmu.edu.my (Corresponding author)*

**Abstract.** The gaming sector has become a significant industry with a global reach, and its importance has continued to grow rapidly in recent years. It is estimated that the global video games market will generate US\$384.90 billion in revenue by 2023, making it one of the largest entertainment industries in the world. The advent of 5G technology has significant implications for the gaming sector. The ultra-fast speeds and low latency of 5G networks can provide gamers with a more seamless and immersive gaming experience. However, users' adoption of 5G networks presents a complex challenge, influenced by numerous variables and unknown factors. To customize service offerings, it is crucial for Mobile Network Operators (MNOs) to understand what motivates consumers in the gaming sector to adopt 5G services. To explore the phenomenon of 5G adoption in the gaming sector, this study utilized a qualitative inquiry method and conducted semi-structured interviews with experts, from policymakers, business managers, technology specialists, and project managers. The data collected from the interviews were analyzed using NVivo software and triangulated with other sources of evidence. Five themes were identified: speed, trend, quality, seamless gaming experience, and smooth streaming. By leveraging these findings, MNOs could develop strategies to attract more gamers to use 5G. Gamers have high expectations regarding the quality and performance of their games, seeking visually stunning, effortlessly running, and next-level experiences that can be played while on the move. With 5G connectivity, gamers' expectations have increased as it provides lightning-fast speeds and low latency, revolutionizing online gaming.

**Keywords:** 5G, Gamers, Strategies, Mobile Network Operators, Gaming Sector

## **1. Introduction**

Mobile communication technology evolves continuously to keep up with the new demands and requirements. Typically, every 10 years cycle new generation of mobile technology is introduced improving previous generations' limitations. Primarily the 1G and 2G was serving voice services and 3G and 4G on the other hand was more focused on mobile data (Park et al., 2021). 5G is designed with limitations of 4G in mind, focusing on improving to parameters of the data throughput and latency (Smith & Ugolini, 2021). Compared to previous mobile communication generations, 5G is expected to provide services to various vertical industries, such as health, education, manufacturing, transportation, construction, etc. (Maeng et al., 2020; Neokosmidis, Rokkas, Parker, et al., 2017). New industrial ecosystem growth from 5G will have an impact on the economy and social conditions (Ariansyah et al., 2019). 5G benefits Mobile Network Operators (MNOs) directly, but indirectly it contributes to countries' GDP and creates hundreds of thousands of new jobs (Neokosmidis, Rokkas, Parker, et al., 2017). Other projected benefits of 5G are better rural-urban integration, higher security, better and more complete entertainment, and less CO2 emissions (Neokosmidis, Rokkas, & Xydiyas, 2017).

5G is designed to cater 3 pillars of applications: 1) enhanced Mobile BroadBand (eMBB), 2) massive Machine Type Connection (mMTC), and 3) Ultra Reliable Low Latency Connection (URLLC) (Ariansyah et al., 2019; Guo et al., 2022; Park et al., 2021; Smith & Ugolini, 2021). Application services can be classified in these pillars based on service requirements. For example, services that require high data throughput such as media streaming in 4K will fall under the pillar of eMBB. The throughput of 5G is expected to reach up to 20 Gbps (Ariansyah et al., 2019). Meanwhile, the pillar mMTC focuses on services that require a huge number of connectivity, such as IoT devices. Based on the standard, 5G is required to have connectivity of up to 1 million connections per square km (Ariansyah et al., 2019). Finally, services that require high reliability or low latency will fall under the URLLC category, services such as industrial automation, mission-critical application, self-driving vehicle, or even gaming (Ariansyah et al., 2019). 5G brings fiber-like speeds which enable new dimensions of immersive experience via virtual reality and augmented reality (Park et al., 2021). The usage of VR and AR can be extended to education, entertainment, or even in industrial applications. The standout feature of 5G here is the ability in providing ubiquitous coverage, where services can be used seamlessly without compromising reliability and speed (Chan & Lee, 2021).

Mobile communications technology has a relatively short cycle, and miscalculation in launching timing might lead to non-adoption (Maeng et al., 2020). Significant investments are associated with providing promised low latency, high-speed 5G network (Neokosmidis et al., 2017b). As previously stated, 5G will drive adjacent vertical markets and promote new business models in Business to Business (B2B) as well as Business to Business to Consumer (B2B2C) (Rendon Schneir et al., 2019). With so many opportunities in 5G, mobile network operators (MNO) need to have the right business cases to make a success of the technology. Scholar has noted that there is limited research published on 5G business cases (Rendon Schneir et al., 2019). (Guirao et al., 2017) discovers that the absence of a viable business model is the main obstacle in integrating vertical industries with 5G.

Incorporating 5G into vertical industries will not only creates value for the verticals but also generates new revenue streams for MNOs (Neokosmidis et al., 2017b). Integrating 5G services into vertical industries remains a big challenge for MNOs. There is a huge knowledge and expertise gap between the MNOs and vertical industries and application developers (Trichias et al., 2021). The market and user adoption of the 5G network present a complicated and multi-faceted challenge that depends on several influencing variables and unknowns (Neokosmidis, 2017a). The understanding of factors that influence and motivate consumers in the gaming sector to adopt 5G services will be key knowledge for the development and customization of service offerings. Therefore, MNOs must consider influencing elements in their business strategies and design business models based on those factors.

The gaming industry is a lucrative industry generating huge revenue (T'ng et al., 2022). The mobile

gaming industry has rapidly grown and accounts for 52% of the global gaming market as cited in (T'ng et al., 2022). Gaming is seen as a potential sector to take advantage of the 5G offerings and is predicted to drastically change the sector (Raju et al., 2022). Low latency is the best candidate parameter for providing a better gaming experience, especially related to AR and VR experiences (Park et al., 2021). On top of that seamless 5G coverage can open the possibility of playing games on the go. Game developers are looking at exploiting the 5G advantage and creating new types of games and gameplay with new devices (Raju et al., 2022)

How to make money out of 5G is still a big challenge for MNOs. 5G Technology key differentiators will determine the success of the MNOs. The telecommunication industry understands the vital role 5G play for the vertical industry. A marriage between 5G and the gaming sector will be a game changer for MNOs who are looking to generate more revenue. But the lack of understanding and knowledge of vertical industry hinders the 5G adoption quickly. This challenge needs to be tackled so that a new business model can be developed and new revenue streams can be generated. Trial and exploration of use cases for 5G are done around the world, to determine the economic feasibility. But there is still a lack of studies on consumer behavioural analysis toward new 5G services. The youths today, who represent the majority of the target group for the gaming sector are often described as digital or social media natives that are hyper-networked and thus highly technology savvy (Aziz, 2023) with more sophisticated expectations compared to the older generations. The gaming sector which is growing rapidly requires a deep understanding of consumer requirements.

Given the backdrop, the research question of this study is how 5G can be successfully adopted by the gaming sector. This paper aims to investigate the adoption factors of 5G from the viewpoint of individuals who are gamers and non-gamers.

## **2. Literature Review**

5G was firstly commercialized in April 2019 in USA and Korea. Evidently can be seen that much research are done on 5G in dated past 5 years or so. There are many papers written on the 5G adoptions (Ariansyah et al., 2019; Lee & Kim, 2020; Li & Sun, 2020; Neokosmidis et al., 2017a; Smith & Ugolini, 2021). 5G service offerings are not limited to mobile broadband (eMBB, enhanced mobile broadband) but also extends offering to vertical industries (Guo et al., 2022). eMBB, Ultra-reliable low latency communications, and massive machine type communications are the three primary 5G pillars of offerings (URLLC and mMTC) (Kumar et al., 2021).

Based on the literature-we can understand that there are many challenges in the vertical sectors in adopting 5G namely in the medical sector (Li & Sun, 2020; Mohanta et al., 2019), education sector (Lee & Kim, 2020; Shah et al., 2021), and in autonomous vehicle (Chan & Lee, 2021). The literature review also reveals many challenges on 5G deployment and market adoption, particularly from the technology perspective and also from the socio-economic perspective (Neokosmidis, et al., 2017). Zafeiropoulos et al., (2018) investigated the technological challenges of 5G and proposed some solutions for vertical industries. One of the challenges of verticals is high data throughput requirements. This requirement can be addressed by using 5G technology (Kaur et al., 2022). The literatures also revealed that adoption behaviors of 5G are studied in specific sectors, such as medical, education, and autonomous vehicles and there are gaps in terms of adoption behavior studies in other sectors. 5G adoption behavior in other sectors such as manufacturing, power, agriculture, and gaming is not widely researched. Ariansyah et al., (2019) mentioned that in Indonesia the 5G adoption is influenced by the new business model. They also mentioned that lowering the cost, new market opening, and CAPEX transformation are also influencing factors in 5G adoption. Security and privacy have also been discussed as influencing factors when comes to 5G adoption (Ariansyah et al., 2019; Gebremariam et al., 2021; Guirao et al., 2017; Kumar et al., 2021). Research by (Iqbal et al., 2021) revealed in Pakistan, the 5G adoption is influenced by low literacy and job shortages. The study also mentioned that there are opportunities (both

quantitative and qualitative) for further research to be undertaken looking into non-infrastructure barriers to adoption.

Several studies are conducted in Europe to investigate the challenges of 5G adoptions in multiple sectors (Guirao et al., 2017; Neokosmidis et al., 2017; Smith & Ugolini, 2021; Trichias et al., 2021; Zafeiropoulos et al., 2018). In Europe, many operators are worried about the 5G business cases (Smith & Ugolini, 2021). (Guirao et al., 2017) discovers that the absence of a viable business model is the main obstacle in integrating vertical industries with 5G. Operators believe that the eMBB and IoT services will be the main driver for the 5G services. eMBB as an important service for 5G is further supported by (Shinohara, 2017) where mobile broadband provides the basis for rapid 5G adoption. A study in Indonesia (Jericho & Javidi, 2023) found both market's perception of ease of use and usefulness of the 5G technology play important role towards the user's intention to use 5G technology.

## **2.1. Drives of 5G Deployment**

In terms of 5G deployment, performance is seen to be the major driver, such as low latency, high reliability, and high throughput. The second criterion that influences the 5G deployment is the business aspect (Neokosmidis et al., 2017b). In this study, (Neokosmidis et al., 2017b) used the fuzzy analytical hierarchy process (AHP) method to understand the factors. In a similar study in 2017, the cost factor and content availability were also seen as factors for 5G success (Neokosmidis et al., 2017b). Collaboration between industry and academic research is vital to creating an appropriate network and content that will enhance the service offerings of 5G (Smith & Ugolini, 2021).

5G adoption in the medical sector has been discussed in several papers (Kumar et al., 2021; Li & Sun, 2020; Mohanta et al., 2019). Since covid pandemic researchers investigated the role of 5G in fighting the pandemic (Kumar et al., 2021). Willingness to use the 5G technology improves when the health technology is user-friendly and the information presented is received as useful. The pricing factor has also been demonstrated as an important factor as users should be able to afford the cost (Li & Sun, 2020). One of the strengths of using 5G is the mobility of the technology, and hence this capability should be given emphasis (Li & Sun, 2020). The study by (Li & Sun, 2020) also highlighted some gaps, particularly not enough survey objects and not enough coverage. Several in-built features in 5G such as high capacity, ability to connect more devices, and limitless coverage area are important to improve patient experience (Mohanta et al., 2019). (Kumar et al., 2021) described more specific applications that 5G can cater to, especially relating to the pandemic. Services such as drones for monitoring and disinfection and the use of robotics for remote surgery and monitoring patients are a good match to what 5G could provide.

Much research is done on 5G adoption and usage in the education sector (Finch et al., 2021; Lee & Kim, 2020; Shah et al., 2021). In 2020, a specific study is conducted to understand the impact of 5G on university education (Lee & Kim, 2020). The study identified most important factors are the cost of living and the learning field for a university student in accepting 5G. Other factors such as learning contents, device types, and learning places are not that impactful factors (Lee & Kim, 2020). In China, a study was done to look into the use of 5G for smart learning (Shah et al., 2021). They used the technology adoption model (Davis, 1989) (TAM) to look into the factors that would be the major determinants of technology acceptance. The study found that ease of use and purpose for their work will encourage them to adopt the technology. The limitation of this study is the research samples are only collected in a few Chinese universities and might not be able to represent all demographic of students (Shah et al., 2021). Through literature, it is also found that for mobile learning applications, mobile edge computing (MEC) will allow 5G services to move closer to the end user. This will enable better capacity and low latency, where applications such as VR/AR are possible in virtual classrooms (Finch et al., 2021).

The literature review also reveals that there are studies done in the transportation sector relating to

5G adoption (Chan & Lee, 2021; Trichias et al., 2021). Trichias et al. (2021) highlighted the current challenges in the adoption and penetration of 5G in transport and logistics. In addition, the paper also suggested the use of special technology called NetApps as part of the integration system to ease the adoption of 5G seamlessly. The VITAL-5G's goal was to close the knowledge gap between telecom companies and vertical industries, in this case for transport and logistics vertical (Trichias et al., 2021).

The autonomous vehicle has been a popular application that is linked with 5G as it can get the best out of the 5G offerings. Interestingly not many scholars have studied the adoption factors of 5G in an autonomous vehicle. (Chan & Lee, 2021) studied the effect of trust on the acceptance of 5G-connected, self-driving cars. In the investigation, researchers used TAM and UTAUT frameworks. In this study, the scholar also studied the mediating of how trust affects a person's plan to use 5G-connected self-driving cars. The limitation of the study is that it only used the autonomous driving bus as a reference and it is not the full representation of all types of autonomous vehicles (Chan & Lee, 2021). In the future, the researchers suggest the use of environmental awareness as mediating variable to study autonomous vehicle behavioral intention.

It is found in the literature review that there are not many investigations done in the gaming industry relating to 5G. The gaming industry is a lucrative industry generating huge revenue (T'ng et al., 2022). Gaming is seen as a potential sector to take advantage of the 5G offerings and is predicted to drastically change the sector (Raju et al., 2022). The mobile gaming industry has rapidly grown and accounts for 52% of the global gaming market as cited in (T'ng et al., 2022). Low latency is the best candidate parameter for providing a better gaming experience, especially related to AR and VR experiences (Park et al., 2021).

## 2.2. Related Theories

Literature review reveals that few models are commonly used to study 5G adoption. Of the total of 20 research papers, some of the papers are empirical studies without data analysis and model adoption. The remaining reviewed papers show models such as the Technology Adoption Model (TAM) (Davis, 1989), User Acceptance of Information Technology (UTAUT) (Venkatesh et al., 2003), Combination of TAM and UTAUT, and Social Practice Theory (SPT).

Table 1. Theories

	Occurrences	Field of Study
Technology Adoption Model (TAM)	2	Healthcare (Li & Sun, 2020), Smart Learning (Shah et al., 2021)
Combination of TAM and UTAUT	1	Connected Autonomous Vehicle (Chan & Lee, 2021)
Social Practice Theory	1	Smart Learning (Shah et al., 2021)

Models are chosen based on how well they fit the study. The example of healthcare (Li & Sun, 2020) and smart learning (Shah et al., 2021) focus on how useful and easy something seems to be to use. In the study of connected autonomous vehicles (Chan & Lee, 2021), the new mediating construct was added to the combined model of TAM and UTAUT. The mediating construct of Trust is used to study the adoption of the connected autonomous vehicle. The model used is the modified framework to suit the connected vehicle study. UTAUT model has been used in information system studies, especially focusing on utilitarian motives (Oh & Yoon, 2014). The hedonic-motivated studies call for newer constructs than what is available in UTAUT (Venkatesh et al., 2016). Hence for the gaming scope of the study, it is important to look for a better model than UTAUT.

Given the unique nature of this study, which is not exclusively related to information systems, there is a strong interest in understanding the underlying motivations of gamers who use 5G technology as their platform of choice. To investigate this, an interview-based approach will be employed to delve deeper into their true motivations. The findings of the study will then be used to develop a new framework that is well-suited to the research topic

### **3. Problem Statement**

Korea is the first country to roll out 5G in April 2019, and many countries have followed suit to launch 5G (Lee & Kim, 2020). Mobile communications technology has a relatively short cycle, and miscalculation in launching timing might lead to non-adoption (Maeng et al., 2020). Significant investments are associated with providing promised low latency, high-speed 5G network (Neokosmidis, Rokkas, Parker, et al., 2017). As previously stated, 5G will drive adjacent vertical markets and promote new business models in Business to Business (B2B) as well as Business to Business to Consumer (B2B2C) (Rendon Schneir et al., 2019). With so many opportunities in 5G, mobile network operators (MNO) need to have the right business cases to make a success of the technology. Scholar has noted that there are limited research published on 5G business cases (Rendon Schneir et al., 2019). (Guirao et al., 2017) discovers that the absence of a viable business model is the main obstacle in integrating vertical industries with 5G.

Incorporating 5G into vertical industries will not only creates value for the verticals but also generates new revenue streams for MNOs (Neokosmidis et al., 2017). Integrating 5G services into vertical industries remains a big challenge for MNOs. There is a huge knowledge and expertise gap between the MNOs and vertical industries and application developers (Trichias et al., 2021). The market and user adoption of the 5G network present a complicated and multi-faceted challenge that depends on several influencing variables and unknowns (Neokosmidis et al., 2017). The understanding of factors that influence and motivate consumers in the gaming sector to adopt 5G services will be key knowledge for the development and customization of service offerings. Therefore, MNOs must consider influencing elements in their business strategies and design business models based on those factors.

The gaming industry is a lucrative industry generating huge revenue (T'ng et al., 2022). The mobile gaming industry has rapidly grown and accounts for 52% of the global gaming market as cited in (T'ng et al., 2022). Gaming is seen as a potential sector to take advantage of the 5G offerings and is predicted to drastically change the sector (Raju et al., 2022). Low latency is the best candidate parameter for providing a better gaming experience, especially related to AR and VR experiences (Park et al., 2021). On top of that seamless 5G coverage can open the possibility of playing games on the go. Game developers are looking at exploiting the 5G advantage and creating new types of games and gameplay with new devices (Raju et al., 2022).

### **4. Method**

This study sits on interpretive research paradigm. Generic qualitative inquiry method was used to obtain responses from respondents and analysed using thematic analysis. 6 stages of Thematic Analysis used in this research which are:

1. Familiarizing yourself with your data
2. Generating initial codes
3. Searching for themes
4. Reviewing themes
5. Writing up the final analysis
6. Producing the report

The sample was obtained through purposive sampling, primarily consisting of individuals who both play games and do not play games. The following questions were asked to the respondents:

1. What factors will motivate you to adopt 5G technology when you are gaming?
2. Why are these factors the most important for you?

## 5. Results

### 5.1. Respondent Profile

The main data used for analysis in this study are the transcripts of the 5 interviews of executives from the relevant sectors.

Table 2. Profile of Respondents

Respondents	Occupation	Education	Play Games
Person 1	Government Officer	Master	No
Person 2	Manager	Master	Yes
Person 3	Manager	Master	Yes
Person 4	Core Specialist	Bachelors	Yes
Person 5	Project Manager	Master	No

### 5.2. Thematic Analysis

#### 5.2.1. Initial Codes

The following table shows the summary of Initial Codes:

Table 3. Initial Codes

Interview Questions	Initial Codes
Q1: What factors will motivate you to adopt 5G technology when you are gaming?	<ul style="list-style-type: none"> <li>● Speed</li> <li>● Trend</li> </ul>
Q2: Why are these factors the most important for you?	<ul style="list-style-type: none"> <li>● Smooth Streaming</li> <li>● Technology Savvy</li> <li>● Seamless Gaming Experience</li> <li>● Quality</li> </ul>

Several codes were obtained through Word frequency analysis in NVivo. Below is the word cloud that shows the initial code using frequency analysis in NVivo. Initially there were many word items included as part of the analysis including words that appeared in the interview questions. After eliminating those words, the obtained result shows the key words. Reduced words are at 12.



Fig.1: Word cloud on motivation factors (Question 1)

The generated codes are then mapped to potential themes, and the resulting potential themes and sub-themes are listed. For question 1, initial codes trend and technology savvy are mapped to the theme, modern and forward thinking (see Figure 2). For question 2, initial codes speed, smooth streaming, seamless gaming experience and quality, are mapped to three themes, namely, superior quality, effortless performance and next level performance (see Figure 3).

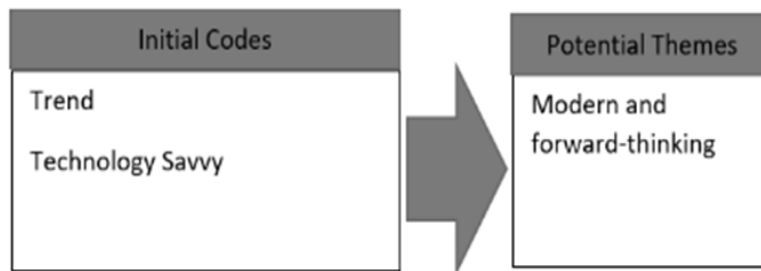


Fig.2: Potential Themes – Factors (Question 1)

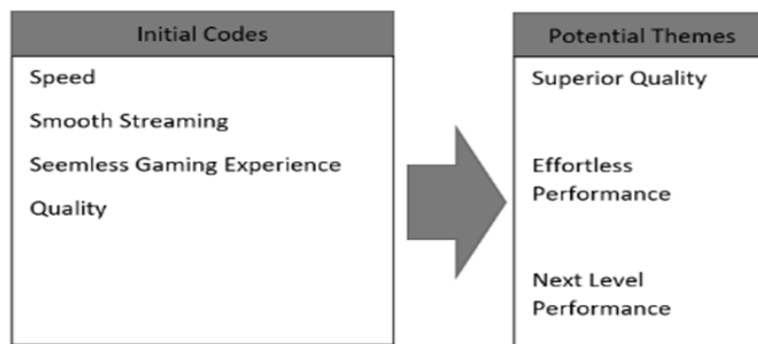


Fig.3: Potential themes – Key reasons (Question 2)

The potential themes were then further refined and consolidated into two final themes, based on their relevance and significance. The final themes represent the most salient and meaningful patterns that emerged from the data and serve as a comprehensive and concise summary of the findings. The potential theme “modern and forward-thinking” is retained (figure 4). However, the potential themes for question 2 were refined into the final theme “high performance” (figure 5).



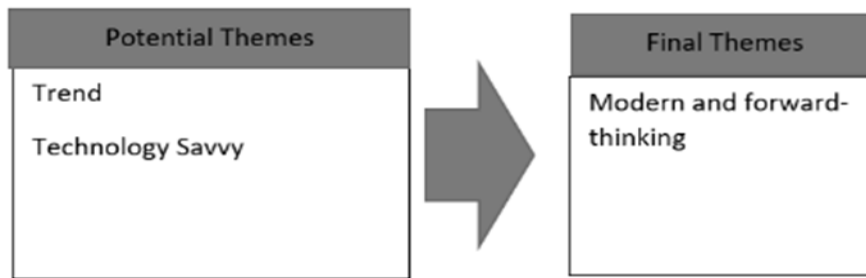


Fig.4: Final Theme – Factors (Question 1)

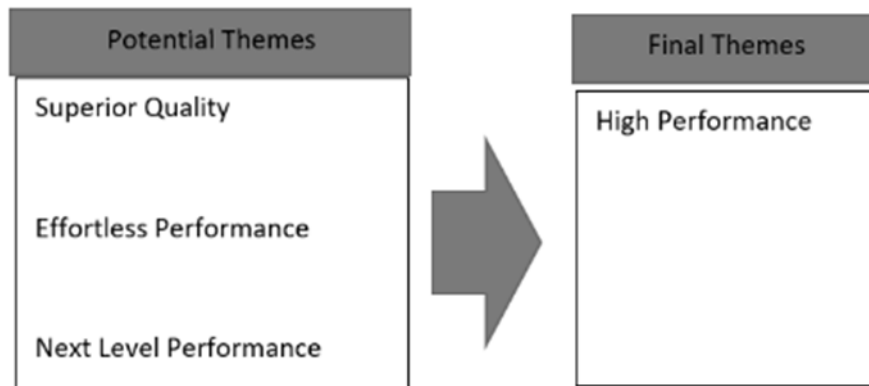


Fig.5: Final Theme – Key reasons (Question 2)

There are two main categories for potential themes. The first group revolves around the concept of high performance. Emphasizing superior quality, effortless performance, and exceptional achievements, these themes highlight the importance of striving for excellence in gaming. The second group focuses on trends and technology, showcasing the modern and forward-thinking nature of gaming enthusiasts. By considering these aspects, we can generate the ultimate themes for our desired outcomes

## 6. Discussion

### 6.1. Revisiting Research Question

The objective of the study was to explore the successful integration of 5G technology within the gaming industry. Through our research, we identified two prominent themes that emerged in relation to the adoption of 5G in gaming: High Performance and Modern and Forward-Thinking.

Gamers have high expectations when it comes to the quality and performance of their games. They expect games to be visually stunning, run effortlessly, and provide next-level gaming experiences. With the advent of 5G connectivity, gamers are now expecting even more from their games. 5G connectivity offers lightning-fast speeds and low latency, making it possible for gamers to experience online gaming in a whole new way.

With 5G, gamers can now enjoy multiplayer games with reduced lag, allowing for smoother gameplay and more precise controls. In addition, games can now be streamed seamlessly and in high definition, thanks to 5G's superior network capabilities. This means that gamers can now enjoy their favourite games on-the-go without any interruptions.

5G connectivity also opens up new possibilities for game developers, allowing them to create more immersive and complex gaming experiences. For instance, games can now incorporate more advanced artificial intelligence and machine learning, which can enhance gameplay and create more challenging opponents.

Gamers are a unique group with a variety of interests and expectations when it comes to gaming. Two themes that are becoming increasingly important to gamers are trendiness and technology savviness.

Trendiness is a theme that is especially important to younger gamers who want to be seen as part of the latest trends in gaming. Many gamers look for games that incorporate the latest styles, themes, and cultural references, as well as games that allow them to express their individuality and creativity. These can include games with customization options, such as character creation or cosmetic items, as well as games that allow players to design and share their own levels, maps, or mods.

Technology savviness is another theme that is becoming more important to gamers. With the rapid advancement of technology, gamers are looking for games that take advantage of the latest innovations, such as virtual and augmented reality, artificial intelligence, and machine learning. They want games that are not only visually stunning, but also incorporate advanced features that enhance the gameplay experience. The connectivity of 5G plays important role to provide high bandwidth and low latency. In addition, many gamers are interested in games that are compatible with the latest hardware and devices, such as high-end graphics cards, powerful processors, and virtual reality headsets.

## 6.2. Emerging Conceptual Framework

The conceptual framework for the study can be developed through thematic analysis. It reveals two primary factors that drive the motivation for adopting 5G technology in the gaming sector: high performance and a modern, forward-thinking mindset. Gamers place significant emphasis on their user experience, making high performance a crucial aspect. Additionally, gamers tend to stay up-to-date with the latest technology trends, eagerly adopting technologies that enhance their gaming experience. The conceptual framework (Figure 6) is currently in the exploratory stage, and our recent discovery aligns nicely with gamers' expectations regarding the future adoption of 5G.

## 6.3. Implications for Practice

Gamers prioritize a seamless and interruption-free gaming experience. They value a smooth gameplay that is immersive and engaging. Game developers and designers should take note of this preference and strive to optimize the gaming experience by reducing distractions and implementing features such as intuitive controls, responsive gameplay mechanics, and streamlined interfaces. In addition to the factors mentioned earlier, connectivity also plays a crucial role in ensuring an interruption-free gaming experience. Reliable and fast connectivity is essential for seamless gameplay, and a lack of connectivity can result in frustrating interruptions and disconnections.

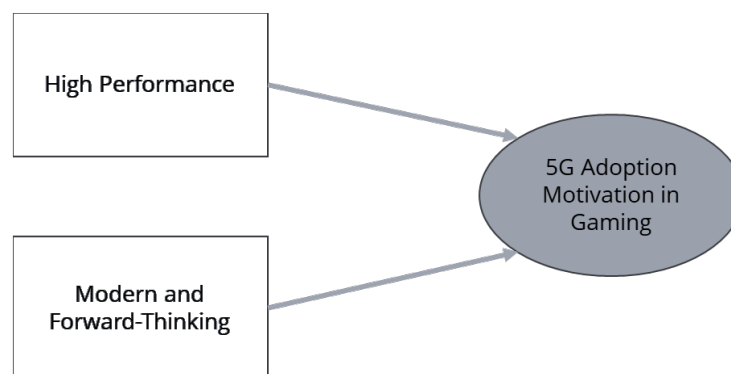


Fig.6: Emerging model of themes for 5G adoption motivation in gaming

Moreover, advancements in connectivity technology, such as 5G, can greatly enhance the gaming experience, especially in the realm of AR/VR gaming. The high speed and low latency of 5G networks can provide a more immersive and responsive gaming experience, allowing players to enjoy high-quality graphics, multiplayer modes, and other interactive features without any lag or delay.

The fact that gaming personnel are highly knowledgeable about the latest technology trends is a surprising finding of the study. It is evident that individuals within the gaming industry make an effort to stay up-to-date with the latest gadgets, connectivity, and games to ensure they do not fall behind the technological advancements. This trend is not unexpected as technology and gaming are closely intertwined, and technological advancements often have a significant impact on the gaming industry. For instance, the emergence of cloud gaming and virtual reality has had a profound effect on the industry. Mobile Network Operators (MNOs) could benefit from developing strategies that leverage the findings of a study aimed at attracting more gamers to use 5G. By using the study as a guiding compass, MNOs can identify the right direction to pursue and unlock new revenue streams. Given the enormous potential of the gaming market in the future, tapping into this opportunity is critical for MNOs.

## 7. Conclusion

The gaming industry has evolved rapidly over the years, with gamers now expecting higher quality and performance from their games. Visually stunning graphics, smooth gameplay, and next-level gaming experiences are just some of the expectations gamers have. With the advent of 5G connectivity, gamers are now expecting even more from their games.

5G connectivity offers lightning-fast speeds and low latency, which enables gamers to experience online gaming in a whole new way. Multiplayer games can now be enjoyed with reduced lag, providing smoother gameplay and more precise controls. Games can also be streamed seamlessly and in high definition, thanks to 5G's superior network capabilities. This means that gamers can now enjoy their favourite games on-the-go without any interruptions.

The benefits of 5G connectivity also extend to game developers, who can now create more immersive and complex gaming experiences. The technology allows them to incorporate more advanced artificial intelligence and machine learning, which enhances gameplay and creates more challenging opponents. Gamers are a unique group with a variety of interests and expectations when it comes to gaming. Two themes that are becoming increasingly important to gamers are trendiness and technology savviness.

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