Information Management and Business Review (ISSN 2220-3796)
Vol. 15, No. 3(SI), pp. 396-409, September 2023

Risk Issues in Esports Events: A Proposal for a Research Framework

Nur Afiqah Ahmad Kamaruddin, Masrur Mohd Khir* & Hazira Mohd Nasir
Universiti Teknologi MARA, Malaysia
*masrur@uitm.edu.my

Abstract: Online gaming or esports has become extremely popular nowadays. As esports popularity increases, the trend of esports events has also been increasing around the world and all major esports stakeholders such as players, organizers, sponsors, teams and broadcasters are taking this opportunity to step up and shine. People participated and watched esports as a form of entertainment until it is now one of the most popular sports in the world. Players are now fighting to be professional players while event organizers take the opportunity to organize more esports events. However, with no specific policy or guideline regarding esports, many issues and risks could arise especially among the major esports stakeholders. Without proper planning on risk management, not only players but all major stakeholders in esports events could be at great risk. To address the gap, this research will explore major esports event stakeholders and identify risks associated with esports events from the stakeholders' perspective. The proposed research will first need to explore the esports stakeholders in its preliminary stage and continue with addressing the risks and issues for all major stakeholders at the secondary stage. Methodically, this exploratory research will apply focus study interviews and case studies as its main method of investigation. The framework can later help all esports events stakeholders enhance their planning process through a proper risk management plan. It will also benefit the government in the development of policy regarding esports events.

Keywords: *Esports, Esports Events, Stakeholders, Risk Management, Research Framework*

1. Introduction

The trend for esports activities keeps increasing showing an excellent development in the past couple of years (Billings & Hou, 2019). As there is a lot of interest in esports, organizing esports events also seems to be giving a lot of benefits and profits, hence why event organizers and other stakeholders such as sponsors and game developers take this as their opportunity. Even during the pandemic Covid-19, when other sporting events needed to be cancelled and postponed, esports events are still being held online and no mass gatherings were involved. The esports industry is one of the industries that suffered the least compared to other sports (Lopez-Cabarcos, 2020). While other people are locked up at home, the esports industry keeps growing throughout the first half of 2020 (Gomez and Raizda, 2020).

Global esports market revenue has multiplied every year, and from 2014 to 2020 the revenue increased to almost USD 906 million (Newzoo, 2017, 2020; Statista, 2020). The total revenue of esports is expected to rise to USD1,598 million in the year 2023. As the data speak, the growth of esports is indeed tremendously fast and there is no sign of a slowdown shortly (Bousquet and Ertz, 2021). Due to the global growth, esports in Malaysia is also going extremely fast and resulting in rapid development for all esports stakeholders. For the past few years, researchers in Malaysia started to study esports such as Rasdi and Rusli (2021) focusing on the benefits and disadvantages of playing esports among university students, Yusof and Basri (2021), on the socialization process among Malaysian esports Players and Lim et.al., (2022) on esports participants' view. The rise of esports has resulted in a huge number of esports events being organised in Malaysia and as such resulted in more risk issues to occur.

When looking for more evidence and information on the risk and safety in esports, most of the research papers discuss the health risks for the esports player/athlete (Jenny, 2022; Trotter et al., 2020; Yin et al., 2020; Donoghue et al., 2022; Ketelhut, 2021) and scant on the safety and risk from the perspective of other stakeholders. Another gap in this study is a geographical gap in which most study of risk in esports has been done abroad such as in the US (Holden et al., 2019, Fuentes and Merces, 2019, Bosquet and Ertz, 2021) which studies esports risk in the area of cyberattack, law and hacking, whereas in India (Gupta et al., 2021) which studies doping in esports. No study in the world has developed a specific risk framework or guideline for esports stakeholders. Therefore, to address the gap, this study's objective is to take the first step by proposing

research with the following objectives: to explore the major esports event stakeholders in Malaysia; and to identify major risks and issues related to esports events from the stakeholders' perspective.

Risk can arise wherever it wants, which is why those people and experts need to work together to ensure the events go according to the plan and achieve the event goal. Singh et al. (2007) mention that experts and vendors from different fields need to work together with the event manager to create a safe, secure and successful event. Looking other researchers, safety and risk in esports have been paying more attention to the player's side such as their medical problems and health (Jenny, 2022; Trotter et al., 2020; Yin et al., 2020; Donoghue et al., 2022; Ketelhut, 2021). There are very few studies have been done from the other esports stakeholders' perspective. There was hardly any specific rule or legislation for the esports industry in Malaysia before this (KBS, 2020). Only this year KBS has come out with "National Esports Development Guideline (NESDEG) which was launched very recently on July 2023(KBS, 2023). According to the KBS Strategic Plan for Esports Development 2020-2025, "There is no dedicated law to govern esports as esports is currently covered under the Sports Development Act 1997" (KBS, 2020). From the statement, it shows that no legislation was formed for esports under the Sports Development Act 1997. Hence, specific legislation for esports needs to be formed under the name of the Esports and Games Development Act (KBS, 2020) addressing issues such as gaming addiction, cheating, doping, hacking and cyberattacks. Therefore, once the act has been established, it is important to create awareness and instill the knowledge to all esports organizers that legislation toward esports is a must to ensure the safety and security of any esports events. NESDEG has provided a general guideline focusing on players' and organizers' contracts and player's ethics. In the guideline also, KBS highlights the risks of doping and cyber security (KBS, 2023). However, the risk is only being explained briefly to create awareness among esports event organizers and there are still no policies and guidelines focusing on risk management for the esports industry.

From the statement above, it can be seen that less attention has been paid to the safety and risk in esports especially from the perspective of the esports organisers. An esports event organizer needs to address all the upcoming risks and safety issues since during the planning stage, failing to do so might expose them to a total disaster. There might be a reason why this study has not yet come to the attention of other researchers - they might think that the risk is somehow similar to any traditional sport. Yes, risk can be predicted but predictions are only as good as a theory that defines information becoming data (Tarlow, 2002). Hence, good safety and risk management comes from past incidents or past studies and is being developed as the guideline for future uses.

2. Literature Review

Defining Esports and its Significance: According to Wagner (2006), and Block and Haack (2021), a specific esports definition does not exist. However, Block and Haack (2021, p.2) did mention that "the German esports association "export-Bund Deutschland e.V." (ESBD) came out with a definition at its general meeting on 26th October 2018 in Hamburg: "esports is the direct competition between human players using suitable video and computer games on various devices and digital platforms under defined rules". Other than that, another study said that esports is the combination of the word real-time, competitive, tournament-based video games played and game system (Abbasi et al., 2021). Esports also has been recognized by the Malaysia Ministry of Sports and Youth (KBS) as one of the sporting events (KBS, 2020). Hence, esports has been seen receiving notable recognition from official traditional sports competitions and SEA Games (Sun Daily, 2022). Esports has also been included as the conventional sport on the global stage where the International Olympic Committee (IOC) has considered incorporating esports in the Olympics (Hilvoorde, 2016). An Esports event is an organized competitive video game usually organized by different leagues, ladders and tournaments (Hamari & Sjöblom, 2017) and it involves teams competing against one another for cash prizes and glory. For example, a worldwide video game championship was held in 2006 where players competed for a one million top reward (Grove & Krejcik, 2015). Professional players or 'Pro-Gamer' are viewed online and are followed by high ratings from viewers all over the world who can participate in live events and see their favorite players (Willingham, 2018). Unlike traditional sports, esports players compete virtually via gaming platforms such as gaming consoles, computers, or mobile phones. However, there is also a similarity between traditional sports and esports in which every esports game's title can be defined as a different type of sport and has different guidelines, rules and regulations. To name a few, desktop computers or PCs offer games

such as Dota 2, League of Legends, Player Unknown Battleground (PUBG) and Starcraft 2 while mobile offer games such as Mobile Legends: Bang (MLBB) and Call of Duty Mobile (COD).

Most esports competitions nowadays involve real-time technique (RTS), Multiplayer online fight arenas (MOBA), Battle Royals, and First-person shooting and fighting (Hamari & Sjöblom, 2017). More competition has, it has led to video games being aired in many shows where the battle among players is broadcast on television for the sake of earning the highest score and winning the prize (Olsen, 2015). Up until today, even in Malaysia, there is a channel specially made to broadcast esports such as eGG Network HD. Other than television, an online broadcast has also been made and nowadays, "Twitch" has become one of the biggest online gaming broadcasting tournaments and events around the world (Keiper et al., 2017). According to Keiper et al. (2017), a lot of video games such as Dota 2 and Mobile Legend have been promoted and Twitch has gained thousands of audience. Nowadays, esports has also opened a job opportunity where some talented players consider themselves as professional full-time players. They are self-trained and some of them are bound to a company or society. Usually each competitor or player will come with their sponsor team which has been the major contribution to the esports organiser in terms of revenue. Similar to physical sports, esports players also earn salaries and do routine training there. Some agencies require their players to go on Live Streaming as one of their training requirements. In 2006, a worldwide video game championship was held and players competed for a one million top reward (Grove & Krejcik, 2015).

Ever since video games could be played online, players started to show their unique skills and strategies to get high ratings. The rating will end up published by the video game trade publication and it will end up being incredibly popular (Lynch, 2016). Esports has shown rapid growth in the community around the world, not only its growth among the players but also the organizers. It is currently the most popular and significant sport around the world (Lynch, 2016). Despite that, esports is still something new and there is still quite minimal information provided on this field. Even though esports has been a part of the culture for a long time, it was played mainly as a hobby until it gained a large amount of popularity and became a competitive event. In 2016, the LoL World Championship brought esports to the peak of popularity and it became an annual tournament that is big in the eyes of financial and company (Chikish et al., 2019).

Growth of Esports: Computer-based esports has dominated and grown its market to many countries such as North America, Europe, China, South Korea and Japan while mobile esports dominate Latin America, the Middle East and Southeast Asia. Newzoo has come out with a full report regarding esports revenue from 2012 until 2017 and they show that the revenue growth increased by a CAGR of 29% every year. For instance, in 2012 the esports revenue was USD130 Million and was increased to USD 465 Million in 2017 (Newzoo, 2017). The total revenue came from Game Publisher Investment, Sponsorship, Online Advertising Merchandise, Licensing and Tickets. In 2021, the online audience almost reached 810 Million and generated nearly USD 1.38 Billion by the end of 2022 (Newzoo, 2022). They predicted that the revenue for esports could reach nearly USD 2 Billion by 2025 as the revenue doubled up consistently every year (Luan & Khanh, 2022). In 2022, China News mentioned that the global esports tournament is expected to reach USD 1.4 Billion and USD 1.9 Billion by 2025 (China Briefing, 2022). In the United States, esports revenue for the year 2021 reached USD 243 Million and for other Western countries, the contribution was also extremely remarkable (Gough, 2022). As for the audience, there are over 205 million people internationally watching esports as per year 2014 (Newzoo, 2017) and it keeps increasing. The United States is the second largest in the world esports market but in terms of investment, the US is the one that leads as it is home to many popular esports personalities, organizations, teams and tournaments (ESI, 2023). They are also among the first countries to introduce the esports industry to the global sphere and now have the most valuable esports team in the world.

Esports Development in Malaysia: For the past few years, Malaysia has started to arrange its future planning toward esports and striving to become one of the best esports hubs in the Southeast Asian region. During the Annual Budget presentation 2019, MYR 10 Million was allocated for esports development which increased to MYR 20 Million in 2020 (KBS, 2020). KBS believes that Malaysia has the potential to be one of the best esports hubs in Southeast Asia. In 2020, the total game revenue in Malaysia was 586.7 Million and ranked 21st in the world (Newzoo, 2020). In 2022, Malaysia has been the host for one of the biggest esports organizers in the world which is ESL One. This was the third time Malaysia hosted the largest esports Event

and the largest was the Dota 2 esports Event of the Year at Arena of Star, Genting Highland. Malaysia also has been one of the first Dota 2 stops for ESL One in 2017 (Malaymail, 2016) which showed that Malaysia has the potential to be the best esports hub in Southeast Asia. Malaysia also has been awarded "The Longest Running Professional Esports Tournament" during MLBB Professional League Malaysia (MPL MY) which began in 2017 and ended in 2020 (Malaysia Book of Record, 2020). Other than that, universities and higher institutions in Malaysia also have started to adopt esports into their annual event with the organization of XPAX KEK (Kejohanan E-Sukan Kampus) beginning in 2019 (Mohd Khir et al., 2022). Esports have benefited students in many ways, thus why many universities in Malaysia have adopted esports as annual events (Rasdi and Rusli, 2021). Therefore, Malaysia's esports industry has expanded widely across the country and benefits the whole country.

The esports event industry in Malaysia is governed by the Ministry of Youth and Sports and the Malaysia Digital Economy Corporation (MDEC). During the Southeast Asia Game Report 2021, MDEC revealed that Malaysia is the third largest game market in the region with USD 786 Million worth (New Straits Times, 2023). Aside from that, Esports Business Network (EBN) also launched Malaysia's very first esports city located at Quill City Mall worth MYR 4 Million (Sun Daily, 2020). The mission is to establish Malaysia's very own esports arena and to attract more international esports events. EBN believes that this opportunity will help esports in Malaysia to grow and indirectly contribute to Malaysia's economic growth by hosting many international events. Therefore, to create better esports development, the Malaysia Electronic Sports Federation (MESF) was established. The role of this federation is to support the growth of the entire esports ecosystem and promote esports activities. In 2020, the Ministry of Youth and Sports came out with a strategic plan for esports development 2020-2025, the first blueprint for esports development. The strategic plan has been made to cater to all esports stakeholders by creating a team for esports development by gathering data and information raised by them (KBS, 2020). ESports events have a huge potential however it is still not widely discovered in many areas which gives many potential for future study such as esports events risk management.

Economic Impact of Esports: Esports has been growing extremely fast (Block and Hack, 2021; Yusoff and Basri, 2021; Lim et al., 2022) hence will affect economic growth positively. According to Malaysia Digital Economy Corporation (MDEC, 2022), the video game industry in Southeast Asia has seen a full decade of strong growth which resulted in a massive rise, especially in the area of tourism, communication, technologies and digital economy. This shows that esports events contribute massively to the growth of a country's economy. Rojas Valverde et al. (2021) as cited by Lim et al. (2022, p.140) mentioned that "esports have unquestionably been the most significant growth in sports which is a newcomer to the unorthodox sports business". The increasing popularity in the esports industry in 2017 has seen the global audience for esports surpassed 385 million (Chanavat, 2017) with total revenue of USD 655 million in 2017 and exceeded USD 1 Billion in 2019 and USD 1.8 Billion by 2022. This produces $3 Billion annually and attracts 300 million views worldwide (Lim et al., 2022). As in Southeast Asia, the gaming industry generated revenue of over USD 4.4 Billion in 2019 with 16% year-on-year growth (MDEC, 2022). In Malaysia, data by IGDA Malaysia shows that the game revenue in Malaysia reached over USD 402 Million in 2021. Malaysia is the 22nd largest esports market in the world valued at MYR 2.4 billion with over 14 million participants (Yusoff & Basri, 2021). This data shows how much an esports event is worth in contributing to the growth of our economy.

Social Impact of Esports: Besides economic growth, the evolution of esports is important for consumer motivation (Chang, 2019). Since the growth of esports, video games have been one of the biggest sources of leisure activity (Hamari & Keronen, 2017). This is not only applicable to the players but also to esports fans. Seeing their favorite team on online streaming makes them happy and boosts their motivation which will functionally be useful in their work life (Hamari and Keronen, 2017). Gan and Li (2018, p.308) did a study on consumer motivation by using the gratification approach and summarised that "enjoyment obtained from interacting with the entertainment, interaction with others, information sharing and self-presentation". From the statement above, esports is also a source of entertainment and players can interact with each other, and so do fans. Other than that, esports sometimes become an information-sharing platform during online streaming and it is also one of the ways of self-presentation for esports players and athletes. Chang (2019) discovered that people play games and watch esports as a form of escaping reality, passing time and also for relaxing. The study also mentioned their favorite team and player saying that watching esports is very

interesting and makes them happy. Therefore, the data show that esports is important for consumers' motivation.

On the other hand, being involved in esports activities can help the development of certain skills, especially among esports players. When individuals are seriously involved in esports and participate in esports tournaments, they need to have multiple skills. Among the skills that could be improved by esports players are in terms of their teamwork skill, interpersonal skills and communication skills (Rasdi and Rusli, 2021). When engaging in esports games, players need to interact with each team member and it is important to sync with other players as well. In this way, an esports player can also improve their communication skill and develop teamwork skills. Research has been done on this in which a respondent stated that "esports helped her as it molded her into a better team player, increased her interpersonal skill and allowed her to break out of her introvert shell" (Tan, 2019), as cited by Rasdi and Rusli (2021). Other than teamwork skills and communication skills, involvement in esports can enhance task management skills, problem-solving skills, and decision-making skills and increase critical thinking. (Bányai et al., 2019; Freeman & Donghee, 2017; Baltezarević & Baltezarevic, 2019). Playing games, especially by joining or being involved in esports, requires the player to have strong decision-making and problem-solving skills together with critical thinking all at the same time so that they can produce a great strategy to win in the competition or tournament. Developing skills from playing in esports can be useful especially when an esports player starts his or her working career outside of the digital world of gaming.

Esports Events Stakeholders: Esports stakeholder is the network of all esports events including tournaments and competitions to success. According to Scholz (2020, p.4) "The esports industry, with its various stakeholders can be seen as an interwoven network, where stakeholders need each other to work and succeed". In the previous study, An esports industry stakeholders group was discovered which consisted of the publisher, developers, event operator/organizer, leagues, teams, streaming platforms, broadcaster, sponsors, players, association and fans (Finch et al., 2019,p.31-32) (Table 1).

Table 1: Esports Industry Stakeholders Groups

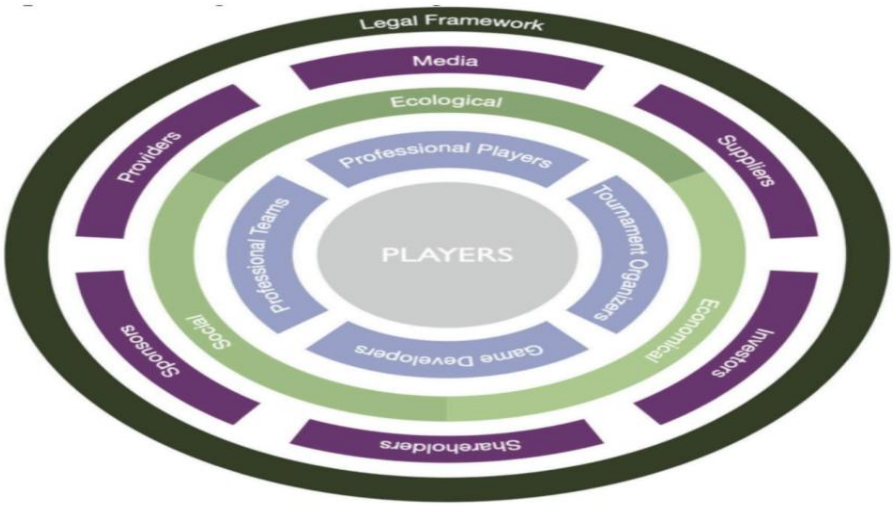
Stakeholders	Definition	Example	Scale Range
Publishers	These organizations own the intellectual property of the video games in which esports leagues, clubs and players compete.	- Riots Games Inc. - Valve Corporation - Activision Blizzard	Very High
Developers	These organizations are the creators of the games in which play occurs	- NetherRealm - EA Sports	Very High
Event Operators	Organizations or groups that organize and host esports events	- ESL - FACEIT	Medium to High
Leagues	The competitive set of events or tournaments, where teams compete for an overall title	- Esports Championship Series (ECS) - The American Collegiate esports leagues (ACEL)	High
Teams/Clubs	Sets of players who compete as a group, as an identified team, in an esports league	- Fanatic - Astralis - Complexity Gaming	Medium to High
Streaming Platforms	Organisations that offer, manage and develop platforms for online media and streaming by fans	- Twitch - YouTube	Very High

Broadcasters	Traditional cable broadcasters who also offer streaming and other media services and outlets	- ESPN - Turner Sports	High
Sponsors	Brands who invest resources into esports in return for marketing rights to achieve their objectives	- Intel - Redbull - Coca-Cola	Medium to High
Players	The athletes/participants who compete as individuals or members of teams in leagues or competitions	- Fatality - NaDeSHoT - Ninja	High
Federations and Associations	The governing bodies who are responsible for the stewardship of esports, its rule and its development	- International Esports Federation	Medium to High
Fans	Followers of esports leagues, clubs and players.		

(Source: Finch et al., 2019).

Scholz (2019) study entitled "Stakeholders in Esports Industry: Management in the World of Competitive Gaming" and "Deciphering the World of Esports", 2020 came out with an esports ecosystem (Figure 1) that comprised of esports stakeholders (Scholz, 2020).

Figure 1: Esports Ecosystem



(**Source:** Scholz, 2020).

From the ecosystem, Scholz (2020) divides it into endemic (players, developers, teams) and non-endemic (sponsors, investors, suppliers). Inspired by the study, another exploratory case study research by Peng et al. (2020) has been done to find out the list of stakeholders of esports governance (Table 2) in which key stakeholders and emerging stakeholders have been separated:

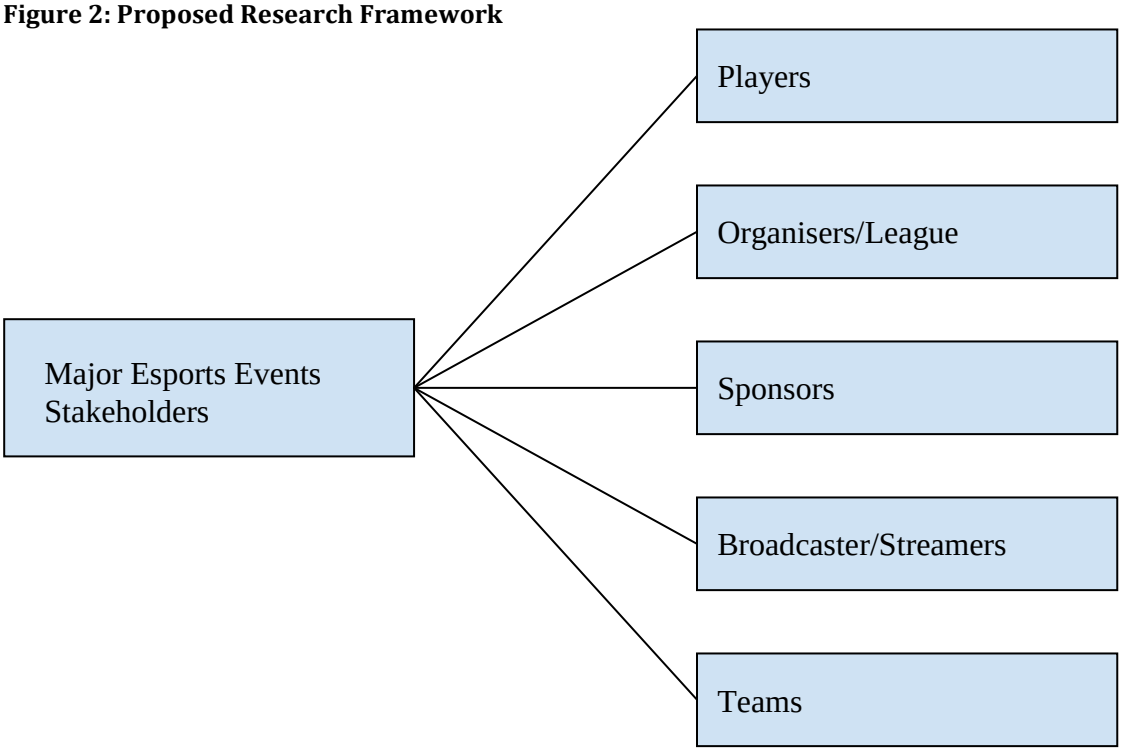
Table 2: Key and Emerging Stakeholders of Esports Governance

Stakeholder Type	Examples	Definition
Key Stakeholders	Game publishers	Companies which publish video games that are produced either internally or externally (i.e., by financing external developers to create games) and hold the intellectual properties of the video games
	Players	Professional and skilled gamers
	Teams	A group of players competing together to win in an esports event
	Tournament/League organisers	Esports events in which players and/or teams compete against each other with the goal to win
	Broadcast and media	Media company and broadcasters that distribute the esports content online or offline (e.g., Twitch)
	Sponsors	Commercial brands that sponsor esports players, teams or events to promote their image
	Fans (communities)	Esports game viewers
Emerging Stakeholders	Esports associations and federations	Both national and international
	Government agencies	Government organisation with legislative and lawful rights to govern esports
	Self-proclaimed industrial guardian organisations	Esports Integrity Commission; game industry trading bodies

Source: (Peng et al., 2020).

Combining all three of the previous studies, this study on esports event risk from the perspective of esports stakeholders will use these findings to explore the main stakeholders that are important in esports events risk and finally come out with the Esports Events Risk Framework to be used by those stakeholders in the future. Hence, the following research framework for esports stakeholders is proposed based on the three esports ecosystems (Finch et al., 2019; Scholz, 2020; Peng et al., 2020).

Figure 2: Proposed Research Framework



Event Management and Esports: Event management is a sector that exposes and involves a lot of risks. Events or festivals that involve a large gathering will bring a huge safety challenge (Mykletun, 2011) and risk management is important in the event industry where all event professionals will need to take charge as the event risk manager. Esports event is an industry with a lot of risk exposure such as injuries and losses (Leopkey and Parent, 2009). Since sporting events usually attract huge crowds, organizers need to deal with the risk of exposure not only to the player but also to the audience. Without proper safety precautions, the risk can be high and cause a lot of damage and injuries. As more issues and incidents come up in this industry, a proper rule has been established by the government. In Malaysia specifically, all sports legislation was covered under the "Sports Development Act 1997" (KBS, 2013).

Esports is a form of a sports tournament or competition which goes under "Sports Event". In the context of Event Management, all five pillars are derived from the Event Management Body of Knowledge or EMBOK Model. Therefore, the issues of risk management and safety were also one of the most important parts of the EMBOK Model". The EMBOK is a three-dimensional description of the knowledge and skills essential to create, develop and deliver an event. The three-dimensional descriptions are Domains, Phases and Processes in which risk is placed as one of the five important domains of the event management study. The risk domain was divided into seven classes which are: Compliance; Decision; Emergency; Health and Safety; Insurance; Legal; and Security.

Esports events started to gain popularity around the world and it can already be introduced as one of the sporting events in which players can play on any platform whether online or offline, professional or non-professional, individual or teams. The industry and a few researchers describe esports events as a fast-growing industry (Block and Haack, 2021; Yusoff and Basri, 2021; Lim et al., 2022; Willingham, 2018; Yun, 2018; Chikish et al., 2019; Holden et al., 2017). Even though the study on esports events is unpopular and still under-researched, many countries have acknowledged esports and are benefiting from the industry (Parshakov and Zavertiaeva, 2016). However, due to the low concern and little study being done on this area, several challenges and threats have occurred resulting in the process of planning and conducting an esports event more difficult and complex. Esports safety and risk management are important to ensure that the event runs smoothly (JWU, 2019). This process is very complicated as it involves various people and expertise from all parties, hence, there is a need to explore the major stakeholders in esports events.

Risks and Threats in Esports Events: Similar to traditional sports, esports also have its risks. Moreover, it is more challenging as esports organizers need to monitor not only the venue, player and audience but also the online platform as esports' most important part is the internet and online platform stability. An incident such as a lost internet connection or cyberattack might occur if proper precautions did not take place. An esports event consultant, Elafros (2021) has come out with a risk matrix regarding esports events and the internet outage score is 12 with a level 4 of severity. This shows that the internet is very important in esports Events. Not only that, when we talk about the internet or online gaming, the possibility of cyberattack, hacking and cheating is also high. This is because esports events involve a lot of sponsors from big companies such as Coca-Cola, Nissan, Disney, Mercedes-Benz and Intel. Attack on these corporations will lead to identity theft, financial loss and reputation damage (Fuentes and Merces, 2019). Other than that, due to the attractiveness of the prize pool, some unethical players will come out with a plan to cheat and hack during esports tournaments, some using AI technology such as aimbots and wallhack. Therefore, risk and safety precautions are crucial in any esports event. Other than risk in the digital area, the risk and safety of the event venue also need to be focused on especially if it involves a physical tournament at an arena. Similar to other physical events, risk management needs to be done especially on crowd control and other technical risk. Since an esports event requires a lot of electrical appliances such as LED screens, IT equipment, computer networks, lighting and sound systems, precautions need to be taken to avoid the risk of fire or electrocution.

Esports has encountered a few threats and risks involving all esports stakeholders. The 2015 esports tournament, the international Dota 2 in Seattle's Key Arena with a 10,000 audience needed to be paused due to a denial of service (DDoS) attack (Meiberg, 2015). Even if there has never been any DDoS incident happening in Southeast Asia, all stakeholders, especially the event organizers need to take precautions. Esports events usually were streamed online and this led to the 'stream sniping' incidents. According to ESIC (Esports Integrity Commission, 2020), "Stream sniping is cheating and specifically prohibited by the rule of

almost all CS: GO tournament organizers. This type of cheating is a breach of the ESIC code of conduct". In September 2020, esports event commissioner Ian Smith stated that they discovered several players and coaches stream sniping their match during a CS: GO tournament resulting in them taking zero tolerance toward the situation. After that, little did we know that weather also affects the condition of esports events. In 2015, during the ESWC (Electronic Sports World Cup) Counter-Strike: Global Offensive Tournament, due to the heatwaves in Montreal, the event's servers overheated and caused multiple delays during the competition and after that being attacked by DDoS. In Malaysia, heat waves are a common situation, hence, this situation can likely occur during any esports events here.

Since esports revenues and prize range keep increasing every year, unethical people or players will take the opportunity to exploit the game and take advantage of the competition for their self-satisfaction. Cheating and hacking which is prohibited from any sporting events including official gaming competition sometimes being committed by some esports players. Moreover, cheat tools are using AI technology called "Aimbots" being sold on the internet which give the player a certain advantage when playing games (Fuentes, and Mercês, 2019). Cheating and hacking happen during a tournament usually when players are allowed to bring and use their device which has supposedly not been allowed by the esports tournament organiser.

Other than cheating and hacking, "Cyber Attack" is also one of the important risks in esports events. DDoS attacks or 'distributed denial of service' can be a major risk that could disrupt esports events (Fuentes, and Mercês, 2019). Due to DDoS, serious lag issues during the competition will occur and delay the competition. As for now, a study regarding cyberattacks in esports tournaments such as DDoS is rarely to be found especially in Malaysia. As for now, there are already several cases of DDoS attacks on major esports competitions (Fuentes, and Mercês, 2019). They predicted that DDoS will continue to occur and disrupt many other major esports tournaments in the future.

Another risk that is often ignored when organizing esports events is Doping. Doping is very familiar and usually being used in physical sports such as football or swimming but rarely being talked about when it comes to esports. According to Holden et al. (2017), the existence of esports has seen a rise in problems connected to drugs to enhance the player's performance. In esports, drugs are used to improve focus and act as emotional control (Jasny, 2020). During the Electronic World Cup 2015, a player admitted that his team was under the influence of 'Adderall' which is a drug substance. Although the anti-doping agency has been established in Germany, there are still other countries including Malaysia that are still left behind.

Even though the esports industry is growing rapidly, it can be seen that less attention has been paid to safety and risk in esports events, especially for all event stakeholders. During the planning process, all stakeholders need to address all the upcoming risks during the planning stage. Less knowledge and exposure to esports safety and risk will bring a total disaster if the risk is not addressed properly in the early phase. There might be a reason why this study has not yet come to the attention of other researchers. They might think that the risk is somehow similar to a traditional sports event and some might think risk can be predicted along the way of the process but little did they know it is wrong. Yes, risk can be predicted but predictions are only as good as theory which defines information becoming data (Tarlow, 2002). Therefore, this study's objective is to shorten the gap in the current study by providing a proper risk management framework that will contribute to all esports event stakeholders.

3. Research Methodology

This qualitative research is suitable with the objective of exploring and understanding a group associated with social or human problems (Creswell, 2018). Most research studies on social science implement qualitative research in their method as it is very important in British leisure research (Veal, 2017). However, since esports is a new industry and there is limited research conducted on esports events, especially on safety and risk management, this study applies an exploratory case study research design (Gratton and Jones, 2004). Exploratory research is used when researchers want to understand a problem better and find new ideas for future research (Yin, 2003), and since this study is new, it is appropriate to use this method since case study involves in-depth and narrow which allows more specific focus on limited areas. Moreover, according to Yin (2018), when answering the questions "what", "why" and "how", a case study design has a huge advantage

because it allows the researcher to focus on a situation and retain a specific and real-world perspective. By referring to the problem statement and research objective it is valid that a qualitative approach with an exploratory case study is the best method to be applied.

This study involves two stages which are the preliminary stage and the secondary stage. As the study needs to explore the major esports stakeholders first before proceeding to explore the risk, two stages are appropriate to ensure a better outcome. In the preliminary stage, the researcher will explore all major esports stakeholders by participating in esports events as attendees to observe using participant observation methods. A technique called "Research Diary" is used to collect the data from the event's participants. This technique is appropriate to be used in this stage as it allows a report on an event and experience to be natural, and spontaneous in providing information (Reis, 1994; Bolger and Rafaeli, 2003). Other than that, secondary data such as articles and journals also will be used to identify the major stakeholders and possible risks. After identifying the major stakeholders, the researcher will schedule a few interview sessions for the secondary stage. At this stage, a focus group and semi-structured in-depth interview with esports events major stakeholders on esports safety and risk will be established to ensure better understanding and more accurate data. As this research uses an exploratory case study, a focus group and semi-structured in-depth interviews are suitable for the second stage. Focus groups allow the researcher to see how participants respond to each other's views and build up a view of the interaction that takes place within the groups (Bryman, 2016). On another note, Magaldi and Berler (2020) defined the semi-structured interview as an exploratory interview and based on Brounéus (2011, p. 130), an "in-depth interviewing is used in peace research to deepen and sharpen our understanding of the complexities of conflict-ridden societies". The interview is done by doing either face-to-face interviews or online interviews as the researchers may need audio-visual or digital material to analyze the data after being collected.

After the interview, the data will be analyzed using a constant comparative method and thematic analysis. Thematic Analysis is used to identify, organize, and offer a systematic insight into the theme across a dataset and with the constant comparative method, the data collected from the interview is compared with each other and comes lastly with the differences and similarities. Barney (1965, p. 436) stated that this constant comparative method is a method where "while coding an incident for a category, compare it with the previous incidents coded in the same category". This study used a qualitative approach, and an inductive study, where researchers start from a big view or data into specific data. A researcher using inductive reasoning is someone who works from the "bottom-up, using the participant" point of view to create the theme that leads to the research outcome (Creswell and Plano, 2007). Finally, the outcomes are maximized by a triangulation technique which is used to develop a comprehensive understanding of the phenomena (Patton, 1999). By combining the two methods, we were able to compare and contrast the data, and no conflicts between the focus group and semi-structured in-depth interview data were noticeable. Other than that, to ensure the accuracy and credibility of the data, a technique of "member check" is also used throughout the process (Birt et al., 2016).

As for the sampling for this study, this exploratory qualitative study uses purposive sampling where the participant is chosen based on their experience and it is relevant to the research questions according to the researcher's judgment. The sampling comprises major esports event stakeholders in Malaysia and the snowballing technique is also used so that a new unit or respondent can be recruited by another unit to be a part of the sample (Naderifar et al., 2017). Therefore, the researcher will be able to discover the "hidden population" by using the snowball method (Dragan and Maniu, 2013). Since this study uses purposive sampling, the sampling size is not fixed but instead the data will be collected until new data no longer brings any additional information to the research question or reaches data saturation. Since purposive sampling was designed to provide an information-rich case for in-depth study (Lopez and Dean, 2013), researchers need to select the best sample to fulfill the research question as they have the experience and are known to have special knowledge to provide to the researcher.

In short, this study adopted a qualitative research design by doing observation, focus groups, and interviews which findings expected to come out with a comprehensive 'Esports Events Risk Management Framework'. There are two stages of this research which are the preliminary stage and the secondary stage. It is expected that the outcome will benefit all esports events stakeholders and be able to help them conduct better event

planning. In other ways, the outcome will also help the government in the development of esports events policy and contribute towards the industry's growth and sustainability.

4. Conclusion

As stated before, the esports industry has rapidly expanded around the world and has contributed to the economy of any country, especially in the sports industry. Even though some countries still do not recognize esports due to the absence of legislation and policy, many other countries all around the world are making an effort to build their esports' very own laws and policies (ESL, 2022). This research will focus on all esports major stakeholders such as sponsors, developers and event organisers but limited only to the Malaysia region. The Minister of Youth and Sports mentioned that the proper development of esports is a must due to its massive contribution to the sports industry in Malaysia (KBS, 2020). The esports industry needs to get its spotlight and this research outcome will be significant to help all esports stakeholders in Malaysia in conducting better esports events in the future. It will also attract more attention towards esports by future researchers especially those in the sport science and recreational or leisure studies (Funk et al., 2018).

Moreover, it is expected that the outcome of this study will discover specific issues and risk focus on each stakeholder that will be significant towards the development of the esports industry in Malaysia, helping the government of Malaysia especially for the development of esports policy and legislation. This is in line with the KBS aspiration that a proper esports act needs to be developed to ensure better esports event safety in the future (KBS, 2020). Additionally, the framework will also be useful for future esports athletes who will later go for a tournament as their guideline.

Most importantly, the proposed framework will benefit all esports stakeholders as a guideline and reference for future esports events and come out with a proper and specific esports Event Guideline or modules to be used by all esports event organizers. As the number of esports events and tournaments increases, many problems and uncertainty will arise. More incidents related to esports will be coming hence why this research is crucial. Even though the interest in esports among researchers is already starting to grow, the literature proves that none of the research acknowledges esports risk and safety issues, especially the stakeholders – something that this study will contribute to the body of knowledge. Therefore, the proposed framework will later help esports organizers, players, sponsors, developers and other major stakeholders in their event planning and implement proper risk management throughout.

References

Abbasi, A. Z., Asif, M., Hollebeek, L. D., Islam, J. U., Ting, D. H. & Rehman, U. (2021). The effects of consumer esports videogame engagement on consumption behaviors. *Journal of Product & Brand Management*, 30(8), 1194-1211.

Baltezarević, B. & Baltezarevic, V. N. (2019). Esports as a new playground. Facta Universitatis, Series: *Physical Education and Sport,* 17(1), 23-30. doi: https://doi.org10.22190/FUPES190303005B

Bányai, F., Griffiths, M. D., Demetrovics, Z. & Király, O. (2019). The mediating effect of motivations between psychiatric distress and gaming disorder among esport gamers and recreational gamers. Science Direct. *Comprehensive Psychiatry,* 94, 152117. doi: https://doi.org/10.1016/j.comppsych.2019.152117

Barney, G. & Glaser. (1965). Constant Comparative Method of Qualitative Analysis. *Social Problems,* 12(4) 436-445. Oxford University Press on behalf of the Society for the Study of Social http://www.jstor.org/stable/798843.

Billings, A. A. & Hou, J. (2019). The Origins of Esport: A Half Century History of an "Overnight" Success. In Understanding Esports: An Introduction to the Global Phenomenon (pp. 31-44). Lexington Books.

Birt, L., Scott, S. E., Cavers, D., Campbell, C. & Walter, F. M. (2016). Member checking. *Qualitative Health Research,* 26(13), 1802–1811. https://doi.org/10.1177/1049732316654870

Block, S. & Haack, F. (2021). esports: a new industry. *SHS Web of Conferences*, 92, 04002. https://doi.org/10.1051/shsconf/20219204002

Bousquet, J. & Ertz, M. (2021). Esports. In IGI Global eBooks (pp. 1–24). https://doi.org/10.4018/978-1-7998-7300-6.ch001

Bolger, N., Davis, A. & Rafaeli, E. (2003). Diary Methods: Capturing Life as it is Lived. *Annual Review of Psychology*, 54(1), 579–616. https://doi.org/10.1146/annurev.psych.54.101601.145030

Brounéus, K. (2011). In-depth Interviewing: The process, skill and ethics of interviews in peace research. ResearchGate.https://www.researchgate.net/publication/257251767_Indepth_Interviewing_The_process_skill_and_ethics_of_interviews_in_peace_research

Bryman, A. (2016). Social Research Methods, 4th ed.; Oxford University Press: New York, NY, USA, 2016.

Briefing, C. (2022, October 7). China's E-Sports Market: Opportunities and challenges for foreign players. China Briefing News. https://www.china-briefing.com/news/chinas-e-sports-market-opportunities-challenges-foreign-investors-game-publishers/

Chanavat, N. (2017). French football, foreign investors: Global sports as country branding. *Journal of Business Strategy,* 38(6), 3-10.

Chang, Z. (2019). What's the hype about esports?: A qualitative study about esports consumer motivation.

Chikish, Y., Carreras-Simó, M. & Garci, J. (2019). Esports: a new era for the sports industry and a new impulse for the research in sports (and) economics? Research Gate. https://www.researchgate.net/publication/332781901_esports_A_New_Era_for_the_Sports_Industry_and_a_New_Impulse_for_the_Research_in_Sports_and_Economics

Creswell, J. & Plano Clark, V. (2007). Designing and Conducting Mixed Methods Research. Thousand Oaks, CA: Sage. *Organizational Research Methods*, 12(4), 801–804. https://doi.org/10.1177/1094428108318066

Creswell, J. W. & Creswell, J. D. (2018). Research Design: Qualitative, Quantitative, and Mixed Methods Approaches. Sage, Los Angeles.

Dragan, I. & Isaic-Maniu, A. (2022). An Original Solution for Completing Research through Snowball Sampling-Handicapping Method. *Advances in Applied Sociology,* 12(11), 729–746. https://doi.org/10.4236/aasoci.2022.1211052

Donoghue, J., Balentine, J., Schmidt, G. & Zwibel, H. (2019). Managing the health of the esport athlete: an integrated health management model. *BMJ Open Sport and Exercise Medicine,* 5(1), e000467. https://doi.org/10.1136/bmjsem-2018-000467

EMBOK-Event Management Body of Knowledge-Afterburner2-Free, GPL template. (n.d.). https://www.embok.org/

ESL One Malaysia 2022 - Back to the best crowd. (n.d.). https://www.esl-one.com/malaysia/

Elafros, B. (2021). Ways to manage risk at esports events. Helping You Succeed in Lean Software Delivery, Esports & Web 3.https://www.billelafros.com/ways-to-manage-risk-at-esports-events

Esports Integrity Commission (ESIC) Statement Regarding Stream Sniping/Ghosting in Online CS: GO tournaments – ESIC. (n.d.). https://esic.gg/sanction-outcome/esports-integrity-commission-esic-statement-regarding-stream-sniping-ghosting-in-online-csgo-tournaments/

Finch, D. J., O'Reilly, N., Abeza, G., Clark, B. & Legg, D. (2020). Implications and Impacts of esports on business and Society. In IGI Global eBooks. https://doi.org/10.4018/978-1-7998-1538-9

FMT. (2022). Govt is working on developing the esports industry, says PM. Free Malaysia Today News.https://www.freemalaysiatoday.com/category/microsite/2022/11/13/govt-is-working-on-developing-esports-industry-says-pm/

Freeman, G. & Wohn, D. Y. (2017). Esports as An Emerging Research Context at CHI. CHI Conference Extended Abstracts. https://doi.org/10.1145/3027063.3053158

Fuentes, M. R. & Mercês. (2019). Cheats, Hacks, and Cyberattacks Threats to the Esports Industry in 2019 and Beyond. Trend Micro Research. https://documents.trendmicro.com/assets/white_papers/wp-threats-to-the-esports-industry-in-2019-and-beyond.pdf

Funk, D. C., Pizzo, A. D. & Baker, B. J. (2018). Esport Management: Embracing esport Education and Research Opportunities. *Sport Management Review*, 21, 7-13.

Gan, C. & Li, H. (2018). Understanding the effects of gratifications on the continuance intention to use WeChat in China: A perspective on uses and gratifications. *Computers in Human Behavior*, 78, 306–315. https://doi.org/10.1016/j.chb.2017.10.003

Gomez, K. & Raizada, S. (2020). Preferences and Future of Gaming and E-Sports in India. *Annals of Tropical Medicine and Public Health*, 23(17).

Gough, C. (2022). Global esports market revenue 2025 | Statista. (2023, July 13). Statista. https://www.statista.com/statistics/490522/global-esports-market-revenue/

Gratton, C., & Jones, I. (2010). *Research Method for Sports Studies* (second). Routledge.

https://repository.bbg.ac.id/bitstream/575/1/Research_Methods_for_Sports_Studies.pdf

Grove, C. & Krejcik, A. (2015). esports Betting: It's real, and bigger than you think. Anaheim, CA.

Gupta, D., Sharma, H. & Gupta, M. (2021). Doping as a barrier to universal acceptance of esports. *International Journal of Sports Marketing and Sponsorship*, 23(3), 645–664. https://doi.org/10.1108/ijsms-05-2021-0105

Hamari, J. & Sjöblom, M. (2017). What is esports and why do people watch it? *Internet Research,* 27(2), 211–232. https://doi.org/10.1108/intr-04-2016-0085

Hamari, J. & Keronen, L. (2017). Why do people play games? A meta-analysis. *International Journal of Information Management*, 37(3), 125–141. https://doi.org/10.1016/j.ijinfomgt.2017.01.006

Holden, J. T., Kaburakis, A. & Rodenberg, R. M. (2017). The future is now: esports policy considerations and potential litigation. *Journal of the Legal Aspects of Sport*, 27(1), 46–78. https://doi.org/10.1123/jlas.2016-0018

Jasny, M. (2020). Doping in e-sports. An empirical exploration and search for sociological interpretations. *Acta Universitatis Lodziensis*, *75*, 85–99. https://doi.org/10.18778/0208-600x.75.06

Jenny, S. E. (2022). Levelling Up Esports Health: Current Status and Call to Action. Slippery rock. https://www.academia.edu/73491615/Leveling_Up_Esports_Health_Current_Status_and_Call_to_Action

Keiper, M. C., Manning, R. D., Jenny, S. E., Olrich, T. W. & Croft, C. (2017). No reason to LoL at LoL: the addition of esports to intercollegiate athletic departments. *Journal for the Study of Sports and Athletes in Education*, 11(2), 143–160. https://doi.org/10.1080/19357397.2017.1316001

Ketelhut, S., Martin-Niedecken, A. L., Zimmermann, P. & Nigg, C. R. (2021). Physical Activity and Health Promotion in Esports and Gaming–Discussing unique opportunities for an unprecedented cultural phenomenon. Frontiers in Sports and Active Living .https://doi.org/10.3389/fspor.2021.6937000

KBS Strategic Plan for Esports Development 2020-2025. (2020). KBS MALAYSIA.

Leopkey, B. & Parent, M. M. (2009). Risk Management Issues in Large-scale Sporting Events: a Stakeholder Perspective. *European Sport Management Quarterly,* 9(2), 187–208. https://doi.org/10.1080/16184740802571443

Lim, C. N., Goh, Y. N., Isa, S. M., Thurasamy, R., & Suki, N. M. (2022). A Bibliometric Review on Esports Participation: View from Malaysia. *Journal of Entrepreneurship, Business and Economics*, 10(2), 139-171.

López-Cabarcos, M. N., Ribeiro-Soriano, D. & Piñeiro-Chousa, J. (2020). All that glitters is not gold. The rise of gaming in the COVID-19 pandemic. *Journal of Innovation & Knowledge,* 5(4), 289–296.

Lopez, V. & Whitehead, D. (2013). Sampling data and data collection in qualitative research. ResearchGate. https://www.researchgate.net/publication/255950308_Sampling_data_and_data_collection_in_qualitative_research

Lynch, A. (2016). Tracing the 70-year history of video games becoming esports. (2016, May 6). FOX Sports. https://www.foxsports.com/stories/other/tracing-the-70-year-history-of-video-games-becoming-esports

Magaldi, D. & Berler, M. (2020). Semi-structured Interviews. In: Zeigler-Hill V., Shackelford, T. K. (Eds.) Encyclopaedia of Personality and Individual Differences. Springer, Cham.https://doi.org/10.1007/978-3-319-24612-3_857 Accessed on July 5th, 202

Maiberg, E. (2015, August 7). eSports Has a DDoS Problem. *Vice*. https://www.vice.com/en/article/vvba9m/esports-has-a-ddos-problem%20management

Khir, M. M., Maon, S. N. & Demong, N. A. R. (2022). Healthy eSport Engagement for eSport Athletes: A Proposal for A Research Framework. *Journal of Entrepreneurship, Business and Economics,* 10(2), 110-126, sep. 2022. ISSN 2345-4695.

Mykletun, R. J. (2011). Festival Safety–Lessons Learned from the Stavanger Food Festival (the Gladmatfestival). *Scandinavian Journal of Hospitality and Tourism,* 11(3), 342-366.

Newzoo. (2017). Global Games Market Report 2017. https://newzoo.com/resources/trend-reports/newzoo-global-games-market-report-2017-light-version

Newzoo. (2020). Global Games Market Report 2020. https://newzoo.com/resources/trend-reports/newzoo-global-esports-market-report-2020-light-version

New Straits Time. (2023). #TECH: Boosting esports in Malaysia. https://www.nst.com.my/lifestyle/bots/2023/03/886522/tech-boosting-esports-malaysia

Naderifar, M., Goli, H. & Ghaljaie, F. (2017). Snowball sampling: a purposeful method of sampling in

qualitative research. *Strides in Development of Medical Education,* 14(3).https://doi.org/10.5812/sdme.676700

Olsen, A. H. (2015). The Evolution of esports: An Analysis of its origin and a look at its prospective future growth as enhanced by Information Technology Management tools. arXiv (Cornell University). https://doi.org/10.48550/arxiv.1509.08795

Patton, M. Q. (1999). Enhancing the Quality and Credibility of Qualitative Analysis. *Health Services Research*, 34, 1189-1208.

Peng, Q., Dickson, G., Scelles, N., Grix, J. & Brannagan, P. M. (2020). Esports Governance: *Exploring Stakeholder Dynamics. Sustainability*, 12(19), 8270. https://doi.org/10.3390/su12198270

Rasdi, N. N. & Rusli, A. N. (2021). Playing E-Sport Among University Students: Benefits And Disadvantages. Research Gate. https://www.researchgate.net/publication/348779211_

Reis HT. (1994). Domains of experience: investigating relationship processes from three perspectives. In Theoretical Frameworks in Personal Relationships, ed. R Erber, R Gilmore,pp. 87–110. Mahwah, NJ:Erlbaum

Rojas-Valverde, D., Córdoba-Blanco, J. M. & González-Salazar, L. (2021). Cyclists or avatars: is virtual cycling filling a short-term void during the COVID-19 lockdown? *Managing Sport and Leisure*, 27(1-2), 158-162.

Scholz, T. (2020). Deciphering the world of esports. *International Journal on Media Management,* 22(1), 1–12. https://doi.org/10.1080/14241277.2020.1757808

Singh, N., Racherla, P., & Hu, C. (2007). Knowledge mapping for safe festivals and events: An ontological approach. *Event Management*, 11(1-2), pp. 71-80.

Tan, M. Z. (2019, January 22). Malaysian gamer girls ace e-sports competition. Malay Mail Online. Retrieved from https://www.malaymail.com/

Tarlow, P. (2002). *Event Risk Management and Safety* (1st ed.). Wiley. Retrieved from https://www.perlego.com/book/3865896/event-risk-management-and-safety-pdf (Original work published 2002)

Trotter, M. G., Coulter, T. J., Davis, P. A., Poulus, D. & Polman, R. (2020). The Association between Esports Participation, Health and Physical Activity Behaviour. *International Journal of Environmental Research and Public Health,* 17(19), 7329. https://doi.org/10.3390/ijerph171973299

Veal, A. J. (2017). Research Methods for Leisure and Tourism. Pearson, London, UK.

Van Hilvoorde, I. (2016). Sport and play in a digital world. Sport, Ethics and Philosophy, 10(1), 1–4. https://doi.org/10.1080/17511321.2016.1171252

Wagner, M. (2006). On the scientific relevance of sport", in Arrey Mbi, J., Clincy, V.A., Droegehorn, O.L., Joan, S., Ashu, M.G., Ware, J.A., Zabir, S. and Arabnia, H.R. (Eds), Proceedings of the 2006International Conference on Internet Computing and Conference on Computer Game Development, CSREA Press, Las Vegas, NV, 437-440.

Willingham, A. (2018). What is esports? A look at an explosive billion-dollar industry. Retrieved from CNN website:https://www.cnn.com/2018/08/27/us/esports-what-is-video-game-professional-league-madden-trnd/index.html

Yin, R. K. (2003). Case Study Research: Design and Methods. Sage. Thousand Oaks, California.

Yin, R. (2018). Case Study Research and Applications Design and Methods, 6th ed.; Sage Publications Ltd.: Thousand Oaks, CA, USA, 2018; 115.

Yin, K., Zi, Y., Zhuang, W., Gao, Y., Tong, Y., Song, L. & Liu, Y. (2020). Linking Esports to health risks and benefits: Current knowledge and future research needs. *Journal of Sport and Health Science*, 9(6), 485–488. https://doi.org/10.1016/j.jshs.2020.04.006

Yusoff, N. H. & Basri, S. (2021). The role of socialization towards the participation of Malaysian female players in e-sport. *International Journal of Social Science Research*, 3(1), 132-145.