

## **A BIBLIOMETRIC REVIEW ON ESPORTS PARTICIPATION: VIEW FROM MALAYSIA**

**Chee Ngee Lim<sup>1</sup> , Yen Nee Goh<sup>1</sup> , Salmi Mohd Isa<sup>1</sup> , Ramayah Thurasamy<sup>2</sup> , Norazah Mohd Suki<sup>3</sup> **

*1 Graduate School of Business, Universiti Sains Malaysia, 11800, USM, Penang, Malaysia*

*2 School of Management, Universiti Sains Malaysia, 11800, USM, Penang, Malaysia*

*3 Othman Yeop Abdullah Graduate School of Business, Universiti Utara Malaysia, Malaysia*

*E-mail: [yngoh@usm.my](mailto:yngoh@usm.my)*

Received June 2022; accepted September 2022

### **Abstract**

eSports is a novel digital sport that has millions of admirers worldwide. Researchers have begun looking into eSports player behaviour due to the sport's recent surge in popularity. However, few researchers have studied the factors influencing Malaysians' intention to participate in eSports. This paper reviews the existing literature on user behaviours in participation in eSports to fully understand the elements that affect users' intention to participate in eSports and to serve as a resource for researchers in future research. First, we conducted a literature search using the databases Era, MyCite, Scopus, and SpringerLink, and we found 31 articles that satisfy the requirements. Second, we carried out a descriptive analysis-focused bibliometric evaluation. Finally, to lay a foundation and generate fresh ideas for future study, this work anticipates potential research-based future research topics.

### **Research paper**

**Keywords:** eSports; Participation; Behavioural Intention

**Reference** to this paper should be made as follows: Lim, C. N., Goh, Y. N., Mod Isa, S., Thurasamy, R., & Mohd Suki, N. (2022). A Bibliometric Review on Esports Participation: View from Malaysia. *Journal of Entrepreneurship, Business and Economics*, 10(2), 139–171.

## **Introduction**

eSports is an inclusive word for real-time, competitive, tournament-based video games played on personal computers and game systems, including Microsoft Xbox and Nintendo Switch (Abbasi et al., 2021). Cybersport is also known as virtual sport and competitive gaming (Cranmer et al., 2021). Similarly, the British Medical Journal describes eSports as professional or competitive video gaming, which has become a phenomenon and an intrinsic component of twenty-first-century digital youth culture. eSports online game categories include First-Person Shooter (FPS), Multiplayer Online Battle Arena (MOBA), Battle Royale (BR), Mobile Games, Personal Computer (PC) Games, Game Console, FIFA/PESS, and others (Abubakar et al., 2021). Sub-genres of esports games include first-person shooter games, multiplayer online battle arena games, sports video games, and real-time strategy games, showing a vast potential audience for these games (Abbasi et al., 2021). In eSports systems, human-computer interfaces (HCI) allow the player and team to input and system output (Pluss et al., 2019).

eSports is a fast-developing, massively popular digital sport (Yusoff & Basri, 2021). In addition to esports players, eSports is a technology-based activity that may benefit industry and business (Abubakar et al., 2021). Publishers of video games and tournament organisers dominate the eSports industry. In recent years, eSports have unquestionably been the most significant growth in sports, a newcomer to the unorthodox sports business (Rojas-Valverde et al., 2022). Following the Covid-19 pandemic, the gaming and eSports sectors have seen significant technological breakthroughs and the introduction of video games. Since the epidemic, the conventional sports indus-

try has seen significant transformations. Due to changing behaviours and routines, it is difficult to return the sports industry to its condition before the epidemic (Ratten, 2020). In 2017, the global audience for eSports would surpass 385 million, including 191 million aficionados (Chanavat, 2017). A survey indicates that it was \$655 million in 2017 and will exceed \$1 billion in 2019. This rapidly increasing industry will be worth around \$1.8 billion by 2022, produce \$3 billion annually, and attract 300 million viewers worldwide. The number of fans and players in esports is increasing globally. The eSports industry has become a global phenomenon with substantial economic and cultural repercussions. Worldwide consumer spending on video games will increase dramatically in the following years. In 2018, global eSports expenditures were \$137.9 billion; by 2021, this sum would reach \$180.1 billion (Abbas et al., 2021). Malaysia is the twenty-second largest eSports market in the world, valued at \$586.8 million (RM2.4 billion), with over 14 million participants (Yusoff & Basri, 2021) and anticipated revenue of RM2 billion for 2017 (Malay Mail, 2022). From June to December 2019, 87% of Malaysia's 20.1 million gamers spent money on in-game virtual goods (Yusoff & Basri, 2021). Researchers expect Malaysia to have the fifth-largest audience, at 4.1 million, showing that the pandemic has increased the number of those interested in watching eSports live (Tariq, 2021). Therefore, a comprehensive literature review is required to properly appreciate the published research results in this context.

Considering the eSports industry's rapid growth and proliferation, academics from numerous fields have started to focus more on the topic (Chiu et al., 2021; Marta et al., 2021; Ratten, 2020). However, the academic com-

munity has a substantial knowledge gap regarding eSports. To better understand the connection between participation and eSports, the previous studies gathered a variety of investigations (Jang & Byon, 2020; Qian et al., 2020b; Xiao, 2020). However, the complexity of the subject has produced a wide range of very uncoordinated results. Furthermore, the complexity of the area suggests that despite several studies on eSports participation, a more precise knowledge of the influencing elements in eSports participation could not yet be offered, especially in the Malaysian context. Since a long time ago, much research has been done on gaming and video games in Malaysia, including studies on violent video game play (Maraire & Chethiyar, 2019; Meng et al., 2017; Yen, 2022). However, there have not many researchers studied eSports participation. Therefore, it is appropriate to carry out a bibliometric literature review to comprehend better the research discoveries published in this domain. This scenario would also give scholars who want to research this topic a broad overview of eSports literature. Additionally, Marzi et al. (2017) identified that the bibliometric method is valuable because it evaluates papers entirely based on quantitative data, decreasing the potential bias of reviewers.

The remainder of the paper is structured as follows. First, we define the influencing factors of eSports participation in the "Literature Review." Then, under "Methodology," we describe the search processes and results. Subsequently, we discuss the results by examining journals, nations, and years of publishing in "Results and Discussion." Next, we summarise and cite the importance of the findings in "Conclusion and Implications for Research." Finally, we list the limits of this study for further investigation in "Limitations and Future Research".

## Literature Review

eSports is a new phenomenon in viewing its recent five-year growth in the academic sector. Most studies investigate what influences how people play and watch video games or online games (Banyai et al., 2019; Huang et al., 2017; Macey et al., 2021; Pu et al., 2021a; Xu et al., 2021). A sizable and expanding body of literature has emerged to examine the factors driving eSports participation. For instance, South Korean on-site and online eSports audience (Pizzo et al., 2018), American eSports viewership (Brown et al., 2018), and eSports gaming and viewership (Qian et al., 2020a).

This section presents essential knowledge of the variables affecting participation in eSports (See Table 1). In Table 1, escape is the most popular factor utilised by researchers ( $N=17$ ), followed by vicarious achievement ( $N=14$ ) and acquisition of knowledge ( $N=14$ ). Subsequently, social interaction ( $N=13$ ), player skills ( $N=10$ ), drama ( $N=8$ ), physical attractiveness ( $N=5$ ), and aesthetics is the least popular factor found in empirical studies ( $N=4$ ).

Table 1 shows that not every past study investigated all the listed factors. As a result, only one past study ( $N=1$ ) conducted by Ma et al. (2021) investigated the eight factors influencing eSports participation. Next, there are two past studies ( $N=2$ ) from Hamari and Sjöblom (2017) and Yu et al. (2022) that examined seven determining factors that influence participation in eSports. Similarly, there are also two past studies ( $N=2$ ) conducted by Qian et al. (2020b) and Sjöblom et al. (2020) that investigated five influencing factors in their studies. On the other hand, there are three past studies ( $N=3$ ) conducted by Macey et al. (2022), Pizzo et al. (2018), and Pu et al. (2021b) examined four determining factors in their studies of eSports participation.

Subsequently, there are four past studies (N=4) from Cabeza-Ramirez et al. (2020), Macey et al. (2021), Neus (2020), and Qian et al. (2020a) investigated three factors in their research on eSports participation. However, most past studies investigated two factors in their studies on eSports participation. There are ten past studies (N=10) from Brown et al. (2018), Hilvert-Bruce et al. (2018), Lettieri and Orsenigo (2020), Pu et al. (2021a), Qian et al. (2020c), Sjoblom and Hamari (2017), Tang et al. (2021), Weiner and Dwyer (2017), Xiao (2020) and Yunus et al. (2021). Finally, nine past studies (N=9) discussed only one factor in their studies. They are Banyai et al. (2019), Choi (2019), Hedlund (2019), Huettermann et al. (2020), Hussain et al. (2021), Kim and Kim (2020), Qian et al. (2022a), Seo (2013) and Tang et al. (2022).

**Table 1.** Summary of prior studies of determining factors that influence participation in eSports

Previous Study	Achieve-	Vicarious	Escape	Player Skills	Social Inter-	Aesthetics	Drama	Physical At-
					action			tractiveness
Banyai et al. (2019)				✓				
Brown et al. (2018)				✓		✓		
Cabeza-Ramirez et al. (2020)				✓	✓			
Choi (2019)				✓				
Hamari & Sjoblom (2017)	✓	✓	✓	✓	✓		✓	✓
Hedlund (2019)						✓		
Hilvert-Bruce et al. (2018)			✓		✓			
Huettermann et al. (2020)							✓	
Hussain et al. (2021)				✓				
Kim & Kim (2020)		✓						
Lettieri & Orsenigo (2020)		✓	✓					
Ma et al. (2021)	✓	✓	✓	✓	✓	✓	✓	✓

	Achieve-	Vicarious	Escape	Player Skills	Social Inter- action	Aesthetics	Drama	Physical At- tractiveness
<b>Previous Study</b>								
Macey et al. (2021)		✓	✓				✓	
Macey et al. (2022)		✓	✓	✓		✓		
Neus (2020)			✓	✓			✓	
Pizzo et al. (2018)		✓		✓	✓			✓
Pu et al. (2021a)			✓	✓				
Pu et al. (2021b)		✓		✓		✓	✓	
Qian et al. (2020a)				✓	✓	✓		
Qian et al. (2020b)		✓		✓	✓	✓		
Qian et al. (2020c)		✓			✓			
Qian et al. (2022a)						✓		
Seo (2013)							✓	
Sjöblom & Hamari (2017)				✓	✓			
Sjöblom et al. (2020)		✓	✓		✓	✓		✓
Tang et al. (2021)			✓	✓				
Tang et al. (2022)				✓				
Weiner & Dwyer (2017)			✓			✓		
Xiao (2020)		✓	✓					
Yu et al. (2022)		✓		✓	✓	✓	✓	✓
Yunus et al. (2021)			✓			✓		

## **Behavioural Intention**

Behavioural intention is one of the most precise predictors of actual behaviour; it measures the inclination to participate in certain behaviours (Ajzen, 1991). A greater desire to do a behaviour increases the probability of executing it (Ajzen, 2020). In the context of eSports, behavioural intention refers to viewers' plans to attend their preferred esports events (Jang et al.,

2020). Behavioural intention is also used in various other areas of sports research to predict an individual's future goals. Therefore, behavioural intention is a trustworthy indicator of later behaviour. In this case, we could predict an individual's likelihood of future eSports viewership based on that individual's behavioural intent. However, few studies have investigated fans' intentions and their predecessors for viewing sports contests. Examples of studies are the ICC T20 World Cup in Pakistan (Gilal et al., 2021; Kashif et al., 2019) and spectating intention in particular sports settings (Duan & Liu, 2020; Duan et al., 2021). Similarly, Pizzo et al. (2018) assessed the intentions of spectators who viewed live esports competitions.

### ***Vicarious Achievement***

Vicarious achievement is the pleasure and fulfilment derived from witnessing another group or player achieve triumph (Xiao, 2020). In the context of sports, the vicarious achievement is the spectator's identification with the achievements of teams and players. Numerous eSports activities aggressively include top players as supporter products and other items affiliated with a major tournament. Therefore, vicarious achievement has a significant psychological component since the viewer ties their feeling of unity with the vicarious achievement and bonds with the athletes they support. Hamari and Sjöblom (2017) revealed that visual characteristics are motivating in sports, such as gymnastics and ice skating, which attract the attention of aesthetically driven audiences. Similarly, Kim and Kim (2020) hypothesised that watching an eSports game or match may deliver eSports fans delight and satisfaction, impacting their behavioural intentions and actual behaviour for the sporting event and competition.

### ***Escape***

Escape comes under stress reduction, primarily relating to an individual's endeavour to escape and desire for freedom from the reality of everyday life (Lettieri & Orsenigo, 2020; Xiao, 2020). According to the poll, 81% of respondents believe playing online games may help individuals relax and gain confidence. Previous research has shown that 5 minutes per day playing an online video game may reduce stress by 17% (Yunus et al., 2021). Additionally, eSports may be akin to other media and sports, providing an escape. eSports may provide a more accessible escape than traditional media and sports (Hamari & Sjöblom, 2017). The earlier research studying the escape factor by Billings et al. (2019) likewise indicated that users usually link escape to using social media for sports, such as Instagram and Snapchat. Additionally, Li et al. (2019) investigated the influence of escape on using Facebook and Weibo for sports.

### ***Acquisition of Knowledge***

Many researchers refer acquisition of knowledge as the extent to which content consumption contributes to intellectual capital, and viewers benefit from organisations and athletes and get an appreciation for debates. The traditional sport provides two cognitive motivations for spectatorship: gaining knowledge from teams and players and amassing information for debate. According to media use and consumer consumption research, information acquisition is essential to online game streaming, social media, and internet usage (Hamari & Sjöblom, 2017). However, few scholars have explored the effect of knowledge acquisition on the behaviour and spectatorship

of eSports, either at events or online (Cabeza-Ramirez et al., 2020; Hamari & Sjöblom, 2017; Pizzo et al., 2018).

### ***Player Skills***

The term player skills refer to the admiration, comprehension, and respect that spectators have for the talents and experiences of professional eSports players. Consequently, many sports fans admire their skills and want to get to a level where they can compete with them. However, to compete at a level appropriate for a professional in esports, players must put in a significant amount of practice time to develop the required skills (Hamari & Sjöblom, 2017). Pizzo et al. (2018) studied the influence of athlete skills in eSports spectatorship and on-site spectatorship contexts. In addition, a few researchers have studied player skill as a game-related motivational factor influencing sports spectatorship (Schaeperkoatter et al., 2016; Stander, 2016; Stander et al., 2016).

### ***Social Interaction***

Social interaction is the term used to describe circumstances in which individuals engage with one another in a group setting. According to Hamari and Sjöblom (2017), social interaction also involves the fun of connecting with other online users. Players may chat and share their thoughts while having fun with the game, increasing the possibility that they will engage with others. People's demand for social contact drives their interest in online gaming (Lettieri & Orsenigo, 2020). Prior research examined the impact of socialising in both traditional sports and esports (Hamari & Sjöblom, 2017; Vale & Fernandes, 2018). A few studies have also shown how the strong sense of

community has contributed significantly to the growth of esports from niche leisure to a widespread phenomenon (Hedlund, 2019; Qian et al., 2022b).

### ***Aesthetics***

The importance of theorising about the quality of experience, especially the emotion of pleasure, is heavily emphasised in current aesthetic theory (Hallman, 1966). A piece of data is aesthetic if it is elegant and beautiful and draws viewers in (Trail, 2012). Studies show that viewers who put a high value on aesthetics like scored sports like gymnastics and figure skating (Bryant et al., 1981; Raney, 2012). Previous eSports studies looked at competitions in the context of holistic aesthetic experiences (Seo, 2013). Researchers collaborated on affective motivations that affect the application in social media (Hamilton et al., 2014) and video game streaming (Papacharissi & Mendenlon, 2011; Whiting & Williams, 2013).

### ***Drama***

Drama refers to the unpredictable nature and unanticipated outcomes of media content, such as sports (Neus, 2020). Some video game designers purposefully raise the likelihood of drama in the context of esports by including unpredictability and asymmetry in their games (Hamari & Sjöblom, 2017). The emotions associated with losses, comebacks, the level of tension around the game's finish, and a close match as opposed to a one-sided game all affect how engaged esports spectators are in watching (Qian et al., 2020b). Hamari and Sjöblom (2017) concluded from their research that although eSports fans may like drama and think it is a significant incentive to watch, it does not influence their viewing habits. Similar to research previously done

to analyse perceived violence in sports, creating an experiment involving material with varying levels of dramatic occurrences to evaluate the influence of the fading nature of drama in media content (Comisky et al., 1977; Raney & Depalma, 2006).

### ***Physical Attractiveness***

Viewing sports or eSports because of an individual athlete's or group of players' physical appeal is referred to as physical attractiveness (Trail, 2012). In addition, physical attractiveness refers to gamers seeing athletes as physically appealing (Hamari & Sjöblom, 2017). Several empirical studies have looked at the relationship between physical attractiveness and eSports and conventional sports spectatorship as well as an intention to watch eSports or events (Hamari & Sjöblom, 2017; Pizzo et al., 2018; Schaeperkoetter et al., 2016).

### **Methodology**

Bibliometric analysis of the literature review is one of the most well-known and influential quantitative statistics techniques used by various research teams. The quantitative examination of bibliographic data offers a broad overview of a research area and categorises research articles, authors, and topics (Merigó & Yang, 2017; Yu et al., 2022; Dana et al., 2021, 2022; Salazmadeh & Dana, 2021). A bibliometric analysis is handy when the researchers are working with a large number of research publications and literature mapping in various fields, which has been widely deployed in eSports (Chiu et al., 2021; Yamanaka et al., 2021), sports (Andrade et al., 2021;

Khatra et al., 2021), and gaming (Behl et al., 2022; Chen et al., 2021; Stehmann, 2020).

The fact that bibliometrics was first discussed in the 1950s implies that the approach is not brand-new (Donthu et al., 2021). Later, Alan Pritchard proposed Bibliometrics in 1969, defined as “the application of mathematics and statistical methods to books and other media of communication” (Wu et al., 2022). Bibliometric reviews have gained more traction recently. The number of publications has increased over time, with an average of 1021 articles employing bibliometric analysis in the most recent ten years. Scholars utilise bibliometric analysis for various purposes, including exploring an existing field's intellectual framework by identifying trends in article and journal performance, cooperation patterns, and research components (Donthu et al., 2021).

The most relevant articles on this research topic were successfully acquired using a bibliometric review technique to get insight into the trajectory of eSports involvement by using the Era, MyCite, SCOPUS, and SpringerLink databases. This study chooses to analyse the literature using these databases because of their extensive business and marketing literature collections. Therefore, this study follows the process described by Andersen (2018) to execute the bibliometric search method used in the database.

The procedures outlined below are used in this study to locate and gather current research on the variables that affect eSports participation. First, we compiled a variety of eSports relevant terms and chose the search terms "eSports\*", "electronic sports\*", "virtual sports\*", and "digital sports\*". Second, we narrowed the search period to the last ten years, which covered research publications published between 2012 and 2022, owing to the early

stages of eSports research (See Table 2). The next section describes several inclusion and exclusion criteria, and this study included any articles containing these keywords detected in the title, abstract, or keyword list.

**Table 2.** Summary of data source and selection

<b>Searching Period:</b>	2012-2022
<b>Searching Keywords:</b>	“eSports*”, “electronic sports*”, “virtual sports*” & “digital sports*”
<b>Language:</b>	English
<b>Document Types:</b>	Articles
<b>Sample Size (Era):</b>	1
<b>Sample Size (MyCite):</b>	1
<b>Sample Size (SpringerLink):</b>	1
<b>Sample Size (Scopus):</b>	28
<b>Total Sample Size:</b>	31

A total of 232 research publications have been successfully obtained from four databases, as mentioned earlier, by using the given keywords. The results were filtered using the following criteria:

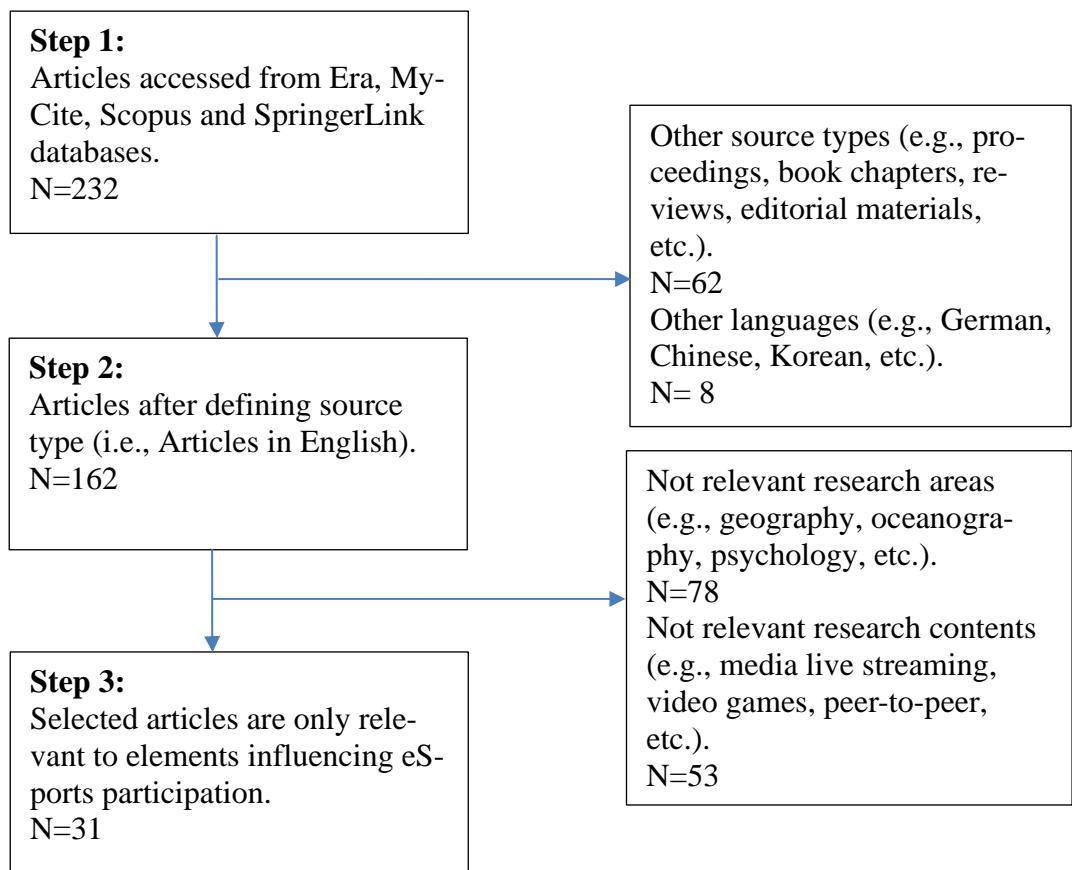
(i) Only included academic publications since they significantly improve scholarship and are subject to strict peer review (Luo et al., 2022). In other words, this study excluded the editorial materials, book chapters, proceedings, and book reviews.

(ii) Only articles written in English were included; articles written in other languages, such as German, Chinese, Japanese, Korean and Spain, were not included.

(iii) Excluded publications published in fields other than business and management, such as neurocognitive, health, psychology, and battling in eSports.

(iv) Only articles that addressed the factors affecting eSports participation were included.

Finally, after removing those unrelated articles ( $n=201$ ), only 31 articles were included for further evaluation (Refer to Figure 1).



**Figure 1.** The process of searching and the outcomes

## Results and Discussion

Figure 1 demonstrates the search method and its outcomes. There is a total of 232 articles retrieved from the three databases. After screening, the

researchers excluded 62 articles from other sources. Subsequently, the researchers removed 8 additional articles written in other languages—such as German, Chinese, Japanese, Korean and Spain. After that, the researchers eliminated another 78 articles from other fields like neurocognitive, health, psychology, and battling in eSports. Next, the researchers eliminated the 53 papers that included unrelated effect variables connected to eSports participation. There are now just 31 articles left after removing these pointless articles (See Figure 1).

### ***Analysis of Journals***

According to Dzikowski (2018), the more articles published in a journal and the more citations it receives, the greater the journal's influence. In order to do this, the researchers examined the total number of articles and citations across all periodicals. As a result, the researchers selected 16 journals because they occupied 84.36% of all citations. Based on publications, citations, and the average number of citations per article, Table 4 ranked the chosen journals. With 521.50 citations per article, the Internet Journal is the most influential, followed by Computers in Human Behavior (323.33 citations per article) and the Journal of Marketing Management (317 citations per article), according to the statistics shown in Table 3. The four journals with the most incredible publishing rates in terms of productivity are Communication & Sport (N=5), Computers in Human Behavior (N=3), Internet Research (N=2), and Sport Marketing Quarterly (N=2).

**Table 3.** Top 16 important journals

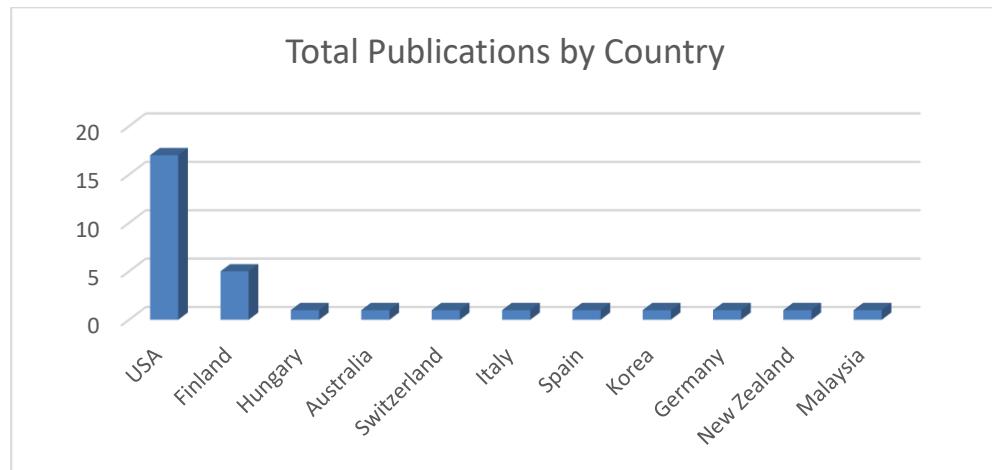
Rank	Source Title	Publica-tions	Cita-tions	ACP
1	Internet Research	2	1043	521.5
2	Computers in Human Behavior	3	970	323.3
3	Journal of Marketing Management	1	317	317.0
4	Journal of Gambling Studies	1	254	254.0
5	Sport Marketing Quarterly	2	235	117.5
6	European Sport Management Quarterly	1	78	78.00
7	Communication & Sport	5	254	50.80
8	Sport Management Review	1	36	36.00
9	Behaviour & Information Technology	1	36	36.00
10	New Media & Society	1	24	24.00
11	Journal of Global Sport Management	1	17	17.00
12	Sport Mont International Journal of Environment Research & Public Health	1	14	14.00
13	International Journal of Sport Communication	1	13	13.00
14	Games & Culture	1	10	10.00
15	Sport, Business & Management: An International Journal	1	6	6.00
16		1	5	5.00

ACP: Average Citation Per Publication

### *Analysis of Countries*

The quantity of papers produced by each nation in the collection demonstrates how the most prolific nations affected the studied study topic (See Figure 2). According to the statistics in Figure 2, the researcher in the USA produced the most influencing variables for eSports participation (48.15% of the total), followed by Finland (18.52%), with the other nations contributing an equal amount (3.70%). Regarding the overall productivity in the study of eSports participation impacting variables, the USA and Finland come in at 66.67%. In reality, the USA and other western nations are where

eSports initially gained popularity (Wagner, 2006). A change in content consumption habits brought on by COVID-19 has led to an explosion in eSports' popularity and the recruitment of several academics in this area (Ratten, 2020).



**Figure 2.** Total publications by country

### ***Analysis of Year Publications***

The amount of papers released by each year in the collection identifies the eSports research area's productive year (See Table 4). Based on the information in Table 4, the least productive year for eSports was 2013, followed by 2017, 2018 and 2019, with 3 publications respectively. However, 2020 has the most publications overall, with 10 publications. Followed by 2021 and 2022, with 7 publications and 4 publications respectively. It shows that before 2020, eSports research is not well-liked. The findings in Table 4 indicate that it has fewer papers published in 2022 regarding determining factors that influence participation in eSports. This scenario might be because it is yet to

end the fiscal year. However, the findings show that the eSports sector has grown in popularity and attracts academics from around the globe. The growing popularity of eSports research might due to Covid-19 has changed the attitude of people toward eSports (Ratten, 2020). Without a doubt, Covid-19 has altered both the academy and the globe.

**Table 4.** Total publications per year

Year	Total Publications
2013	1
2017	3
2018	3
2019	3
2020	10
2021	7
2022	4
	<b>31</b>

## Conclusion and Implications for Research

This research adds to the body of knowledge on eSports by offering a thorough analysis of 31 studies. By looking at eight crucial variables, we first defined the term "eSports" and the factors that affect people's intention to participate in eSports. From the bibliometric review, most researchers examined the components of vicarious achievement, acquisition of knowledge, escape, drama, aesthetics, social interaction, player skills, and physical attractiveness.

Second, using bibliometric review, we compiled and synthesised the findings of 31 academic papers on the factors that influence eSports participation. We then presented the descriptive analysis at four levels: the total

number of papers and citations, the most cited journals, and the top publishing nations.

According to an assessment of the research on vicarious achievement, it was the most influential factor in sports competitions for influencing spectatorship (Schaeperkoetter et al., 2016; Stander et al., 2016). Vicarious achievement is also significant and has a favourable impact on sports and eSports spectatorship, according to a study by Pizzo et al. (2018). Furthermore, given that viewers may momentarily escape their issues by watching eSports, escape is a crucial element impacting eSports spectatorship, based on the literature review on escape (Hamari & Sjöblom, 2017). A few researchers have also discovered that escape, which serves as a diversion for viewers away from their regular life while they watch the games, has an extensive and favourable impact on spectatorship (Schaeperkoetter et al., 2016; Stander et al., 2016).

On the other hand, acquiring knowledge is a powerful motivation in traditional sports and consuming diverse online communities and multimedia content (Hamari & Sjöblom, 2017; Sjöblom & Hamari, 2017). Since eSports is a game of skill that is wholly and inevitably computer-mediated, prior research by Hamari & Sjöblom (2017) has shown that the knowledge variable favourably influences the spectating in eSports. According to the player skills literature study and prior research, audiences may try to learn from the most significant players and enhance their dominance of the games; therefore, player skills are the component that most intensely and favourably affects spectatorship of events (Schaeperkoetter et al., 2016; Stander et al., 2016). A few studies have also shown that player skills are essential and have a beneficial impact on watching eSports since viewers may learn about talents

holistically and can enhance their skills or tactics while watching (Pizzo et al., 2018; Qian et al., 2020a).

Undeniably, few studies have shown that social interaction now impacts spectatorship as viewers may build good relationships and connect with others while enjoying the sports (Schaeperkoetter et al., 2016; Stander et al., 2016). According to several researchers, social interaction has a significant role in positively influencing spectatorship since people follow eSports because they believe it to be a social activity that fosters a sense of community (Brown et al., 2018; Qian et al., 2020b). Due to the excellence and elegance of athletic performance and play, the aesthetics literature review has positively contributed to the fans' decision to watch the games. Later studies by Schaeperkoetter et al. (2016) and Stander et al. (2016) found that aesthetics had a beneficial impact on spectatorship because audiences are motivated by the qualities of grace and beauty shown by sports.

The literature research on drama revealed that it is a significant and advantageous aspect in influencing spectatorship because audiences are aroused by the uncertainty of the outcome of a sporting event while cheering on their preferred sports team (Schaeperkoetter et al., 2016; Stander et al., 2016). Furthermore, subsequent research on eSports spectatorship further highlighted the significance of drama and its beneficial effects because, despite the uncertain outcomes of the games, drama motivates people to watch eSports for thrills and enjoyment (Macey et al., 2021; Qian et al., 2020b). Last but not least, the analysis of the literature on physical attractiveness has shown that being beautiful increases people's desire to enjoy watching sports or the physical attractiveness that certain players bring (Schaeperkoetter et al., 2016; Stander et al., 2016). Furthermore, prior research collaborated that

physical attractiveness is positively connected to sports viewing happiness and more possibilities to consider and assess the athletes' physical characteristics (Sjöblom et al., 2020).

We examined several implications in this study in detail. First, this study discovers that 2020 was the most fruitful year for eSports participation research, albeit the number of citations is still modest. Research is needed to understand how various marketing methods affect people's behaviours or intentions to participate in eSports. Consequently, it enables marketers to create a thorough and effective marketing strategy to advertise to the public and raise awareness of eSports. Since eSports is a new topic of study, more research is needed. Third, *Communication & Sport* is the most productive journal in this research field about engaging in eSports. In contrast, *Internet Research* has the most incredible citations and average citation per publication on the list of the most cited journals. Last, contributions from the USA outnumber those from Finland, Hungary, Australia, Switzerland, Italy, Spain, Korea, Germany, New Zealand, and Malaysia, which are essential in the contribution ranking.

### ***Implications for Malaysia***

With 4.1 million viewers, Malaysia ranks sixth in the world, showing a sharp rise in the number of people interested in eSports (Tariq, 2021). The Media Prima Group's broadcast of the FIFA Online 3 National Championship also contributed to a spike in interest in eSports in Malaysia in late 2017 (Toh, 2019). In order to expand the eSports industry and nurture eSports talent, the government has invested a significant amount of money (Khalid, 2022). The

Malaysian government understands how Malaysians behave and has upgraded the infrastructure to assist the growth of eSports in Malaysia and nurture the athletes. Therefore, at the Commonwealth Esports Championship in Birmingham, England, the Malaysian esports team won three gold medals, a significant improvement for eSports in Malaysia (Yeoh, 2022). eSports are gaining popularity in Malaysia. Thus, more studies pertinent to eSports in the Malaysian context are encouraged in the future. Decision-makers could use the results of this study to more intentionally design initiatives and programs to encourage more Malaysians to participate in eSports. Additionally, this is a similar opportunity for marketers and investors to engage in regional eSports ecosystems. They can advertise and carry out periodic matches and championships due to regulatory upgrades and a roadmap for eSports sustainability. The findings of this study could help eSports developers and researchers create viable marketing strategies to advertise to the general public and raise awareness of eSports. Building a solid fan base will be crucial for the local eSports industry's continued growth and stability.

### ***Limitations and Future Research***

This study has various limitations, just like other research studies. First, just like with any bibliometric analysis, we could only identify the citations and could not determine if they were used to convey a positive or negative message. Additionally, as citation analysis is always backwards-looking, it can only reveal the current state of a field. To better understand user behaviours and intentions in eSports participation, researchers can apply sophisticated bibliometric analysis in the future. For instance, future studies can ana-

lyse the co-citation, authorship, co-word analysis, author keyword word-cluster analysis, and global and local citation score analysis. Second, based on the sample of ten years of published literature, specific results may be out-of-date, and recent advancements in the field might not have been completely taken into account. Future research on this domain may discover articles by certain finite intervals of time (for example, 10-year intervals) and compare those to one another. This scenario is due to citation patterns that may alter over time. Third, the Era, MyCite, Scopus, and SpringerLink databases were the only ones used to gather the study's data. Future studies may use well-known databases to gather data, like WoS, ProQuest, and Emerald. Fourth, because this study only examined articles, future research can examine book chapters, conference proceedings, and other publications. Fifth, because this study primarily examined eSports participation, few papers were available for analysis. Future research might consider analysing other pertinent subjects like eSports consumption or purchasing intention, eSports psychology, and eSports economics. Sixth, this paper only focused on articles from a few countries. Future studies may supplement the existing literature by examining eSports in various cultural settings, such as the Asian context since the United States and Finland conducted most of the present study. Seventh, this article only presents eight factors that have the potential to bridge the gap in terms of the desire to participate in eSports. In a further study, it may be worthwhile to investigate the possibility of discovering other elements such as entertainment, interest, novelty and enjoyment. In addition, other mediators and moderators, such as satisfaction, genre, and age, may be identified as potential factors in the link between motives and involvement in eSports via more stud-

ies in the future. Finally, this study reviewed the factors influencing the behavioural intention to participate in eSports. Thus, empirical research on eSports participation should be conducted in the future, focusing on multiple motives, such as the fundamental behaviour of games and the actual behaviour of watching eSports. Therefore, it is handy to bridge the gaps in literature if researchers carry out such a study in the future.

## Acknowledgements and Funding

This work was supported by the “Ministry of Higher Education Malaysia for Fundamental Research Grant Scheme with Project Code: FRGS/1/2021/SS01/USM/02/11”.

## References

1. 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.
2. Abubakar, Agung, I., Efaria, L., Zuhdi, W., Sofioningrum, E. (2021). Study of influence factors eSports development in Indonesia. *Psychology and Education*, 58(2), 6170-6182.
3. Ajzen, I. (1991). The theory of planned behavior. *Organisational behavior and human decision processes*, 50(2), 179-211.
4. Ajzen, I. (2020). The theory of planned behavior: Frequently asked questions. *Human Behavior and Emerging Technologies*, 2(4), 314-324.
5. Andersen, J. (2018). Preaward—Project Preparation. In *Research Management: Europe and Beyond* (pp. 147-171). Elsevier.
6. Andrade, A., Dominski, F. H., & Vilarino, G. T. (2021). Outdoor Air Quality of Environments Used for Exercise and Sports Practice: An Analysis of Scientific Production through Bibliometric Analysis. *Applied Sciences*, 11(10), 4540.
7. Bánya, F., Griffiths, M. D., Király, O., & Demetrovics, Z. (2019). The psychology of esports: A systematic literature review. *Journal of Gambling Studies*, 35(2), 351-365.

8. Behl, A., Jayawardena, N., Pereira, V., Islam, N., Del Giudice, M., & Choudrie, J. (2022). Gamification and e-learning for young learners: A systematic literature review, bibliometric analysis, and future research agenda. *Technological Forecasting and Social Change*, 176, 121445.
9. Billings, A. C., Broussard, R. M., Xu, Q., & Xu, M. (2019). Untangling international sport social media use: Contrasting US and Chinese uses and gratifications across four platforms. *Communication & Sport*, 7(5), 630-652.
10. Brown, K. A., Billings, A. C., Murphy, B., & Puesan, L. (2018). Intersections of fandom in the age of interactive media: eSports fandom as a predictor of traditional sport fandom. *Communication & Sport*, 6(4), 418-435.
11. Bryant, J., Carveth, R. A., & Brown, D. (1981). Television viewing and anxiety: An experimental examination. *Journal of Communication*, 31(1), 106-119.
12. Cabeza-Ramírez, L. J., Sánchez-Cañizares, S. M., & Fuentes-García, F. J. (2020). Motivations for the use of video game streaming platforms: The moderating effect of sex, age and self-perception of level as a player. *International Journal of Environmental Research and Public Health*, 17(19), 7019.
13. Chanavat, N. (2017). French football, foreign investors: Global sports as country branding. *Journal of Business Strategy*, 38(6), 3-10.
14. Chen, X., Zou, D., Xie, H., & Cheng, G. (2021). A Topic-Based Bibliometric Review of Computers in Human Behavior: Contributors, Collaborations, and Research Topics. *Sustainability*, 13(9), 4859.
15. Chiu, W., Fan, T. C. M., Nam, S. B., & Sun, P. H. (2021). Knowledge mapping and sustainable development of esports research: A bibliometric and visualised analysis. *Sustainability*, 13(18), 10354.
16. Choi, C. (2019). Understanding media consumption of electronic sports through spectator motivation, using three different segmentation approaches: the levels of addiction, passion, and fan identification. *Sport Mont*, 17(1), 3-8.
17. Comisky, P., Bryant, J., & Zillmann, D. (1977). Commentary as a substitute for action. *Journal of Communication*, 27(3), 150-153.
18. Cunningham, G. B., Fairley, S., Ferkins, L., Kerwin, S., Lock, D., Shaw, S., & Wicker, P. (2018). eSport: Construct specifications and implications for sport management. *Sport management review*, 21(1), 1-6.
19. Dana, L. P., Salamzadeh, A., Hadizadeh, M., Heydari, G., & Shamsoddin, S. (2022). Urban Entrepreneurship and Sustainable Businesses in Smart Cities: Exploring the Role of Digital Technologies. *Sustainable Technology and Entrepreneurship*, 100016.

20. Dana, L. P., Salamzadeh, A., Mortazavi, S., & Hadizadeh, M. (2022). Investigating the impact of international markets and new digital technologies on business innovation in emerging markets. *Sustainability*, 14(2), 983.
21. Dana, L. P., Salamzadeh, A., Mortazavi, S., Hadizadeh, M., & Zolfaghari, M. (2022). Strategic futures studies and entrepreneurial resiliency: a focus on digital technology trends and emerging markets. *Tec Empresarial*, 16(1), 87-100.
22. Dana, L. P., Tajpour, M., Salamzadeh, A., Hosseini, E., & Zolfaghari, M. (2021). The impact of entrepreneurial education on technology-based enterprises development: The mediating role of motivation. *Administrative Sciences*, 11(4), 105.
23. Deci, E. L. & Ryan, R. M., (2000). Intrinsic and extrinsic motivations: Classic definitions and new directions. *Contemporary Educational Psychology*, 25(1), 54-67.
24. Duan, Y., & Liu, B. (2021). Spectator satisfaction model for mass participant sport events: antecedents and consequences. *International Journal of Sports Marketing and Sponsorship*, 22(2), 385-406.
25. Duan, Y., Liu, B., & He, Y. (2020). Study on relationships among sports spectator motivations, satisfaction and behavioral intention: empirical evidence from Chinese marathon. *International Journal of Sports Marketing and Sponsorship*, 21(3), 409-425.
26. Dzikowski, P. (2018). A bibliometric analysis of born global firms. *Journal of business research*, 85, 281-294.
27. Gilal, F. G., Gilal, N. G., Tariq, B., Gilal, R. G., Gilal, R. G., Gong, Z., & Channa, N. A. (2021). Intergenerational differences in fans' motivation to watch the T20 world cup: A generation cohort theory perspective. *International Journal of Sports Marketing and Sponsorship*, 22(2), 197-219.
28. Hallman, R. J. (1966). Aesthetic pleasure and the creative process. *Journal of Humanistic Psychology*, 6(2), 141-147.
29. Hamari, J., & Sjöblom, M. (2017). What is eSports and why do people watch it?. *Internet Research*, 27(2), 211-232.
30. Hamilton, W. A., Garretson, O., & Kerne, A. (2014). Streaming on twitch: fostering participatory communities of play within live mixed media. In *Proceedings of the SIGCHI conference on human factors in computing systems* (p. 1315-1324). Canada.
31. Hedlund, D. P. (2019). The motivations of eSports players. *Understanding esports: An introduction to the global phenomenon*, 95-114.
32. Hilvert-Bruce, Z., Neill, J. T., Sjöblom, M., & Hamari, J. (2018). Social motivations of live-streaming viewer engagement on Twitch. *Computers in Human Behavior*, 84, 58-67.

33. Huang, T., Bao, Z., & Li, Y. (2017). Why do players purchase in mobile social network games? An examination of customer engagement and of uses and gratifications theory. *Program: Electronic Library and Information Systems*, 51(3), 259-277.
34. Huettermann, M., Trail, G. T., Pizzo, A. D., & Stallone, V. (2020). Esports sponsorship: An empirical examination of esports consumers' perceptions of non-endemic sponsors. *Journal of Global Sport Management*, 1-26.
35. Hussain, U., Yu, B., Cunningham, G. B., & Bennett, G. (2021). "I can be who I am when I play Tekken 7": E-Sports women participants from the Islamic Republic of Pakistan. *Games and Culture*, 16(8), 978-1000.
36. Jang, W. W., & Byon, K. K. (2020). Antecedents and consequence associated with esports game-play. *International Journal of Sports Marketing and Sponsorship*, 21(1), 1-22.
37. Jang, W. W., Kim, K. A., & Byon, K. K. (2020). Social atmospherics, affective response, and behavioral intention associated with esports events. *Frontiers in Psychology*, 11, 1671.
38. Kashif, M., Fernando, P. M. P., & Wijenayake, S. I. (2019). Blinded by the sand of its burrowing? Examining fans' intentions to follow one-day cricket on TV with a moderating effect of social influence. *International Journal of Sports Marketing and Sponsorship*, 20(1), 81-108.
39. Khalid, J. KT. (2022). Should eSports be regarded as a sport?. Retrieved 2 September 2022 from <https://www.thesundaily.my/opinion/should-esports-be-regarded-as-a-sport-KN8791905#:~:text=Despite%20the%20positive%20growth%20and,widely%20accepted%20as%20a%20sport>
40. Khatra, O., Shadgan, A., Taunton, J., Pakravan, A., & Shadgan, B. (2021). A bibliometric analysis of the top cited articles in sports and exercise medicine. *Orthopaedic Journal of Sports Medicine*, 9(1), 2325967120969902.
41. Kim, H. S., & Kim, M. (2020). Viewing sports online together? Psychological consequences on social live streaming service usage. *Sport Management Review*, 23(5), 869-882.
42. Lettieri, E., & Orsenigo, C. (2020). Predicting soccer consumption: do eSports matter? Empirical insights from a machine learning approach. *Sport, Business and Management: An International Journal*, 10(5), 523-544.
43. Li, B., Dittmore, S. W., Scott, O. K., Lo, W. J., & Stokowski, S. (2019). Why we follow: Examining motivational differences in following sport organisations on Twitter and Weibo. *Sport Management Review*, 22(3), 335-347.
44. Luo, X., Cheah, J. H., Lim, X. J., & Ng, S. I. A. (2022). Bibliometric Review of User Behaviors Research in Live Streaming Commerce. *Journal of Marketing Advances & Practices*, 4(1), 32-49.

45. Ma, S. C., Byon, K. K., Jang, W., Ma, S. M., & Huang, T. N. (2021). Esports Spectating Motives and Streaming Consumption: Moderating Effect of Game Genres and Live-Streaming Types. *Sustainability*, 13(8), 4164.
46. Macey, J., Abarbanel, B., & Hamari, J. (2021). What predicts esports betting? A study on consumption of video games, esports, gambling and demographic factors. *New Media & Society*, 23(6), 1481-1505.
47. Macey, J., Tyrväinen, V., Pirkkalainen, H., & Hamari, J. (2022). Does esports spectating influence game consumption?. *Behaviour & Information Technology*, 41(1), 181-197.
48. Malay Mail. (2022). Hanoi SEA games: Malaysia eSports Federation ask FAM to name players selected through qualifiers for Fifa Online 4 event. Malay Mail. Retrieved 2 July 2022 from <https://www.malaymail.com/news/sports/2022/03/07/hanoi-sea-games-malaysia-esports-federation-ask-fam-to-name-players-selecte/2046015>
49. Maraire, T., & Chethiyar, S. D. M. (2019). The nexus between violent video game playing and aggression among emerging adults at Universiti Utara Malaysia. *International Journal of Education*, 4(33), 298-308.
50. Marta, R. F., Syarnubi, K. L., Wang, C., Cahyanto, I. P., Briandana, R., & Isnaini, M. (2021). Gaining public support: Framing of eSports news content in the Covid-19 pandemic. *SEARCH Journal of Media and Communication Research*, 13(2), 71-86.
51. Marzi, G., Dabić, M., Daim, T., & Garces, E. (2017). Product and process innovation in manufacturing firms: A 30-year bibliometric analysis. *Scientometrics*, 113(2), 673-704.
52. Meng, T. Y., Xin, M. W. M., Chen, G. Y., & Nainee, S. (2017). The Effect of Violent Video Game Exposure on the Aggression Level of Undergraduates. *Sains Humanika*, 9(3-2).
53. Merigó, J. M., & Yang, J. B. (2017). A bibliometric analysis of operations research and management science. *Omega*, 73, 37-48.
54. Neus, F. (2020). Differences and similarities in motivation for offline and online eSports event consumption. In *Event Marketing in the Context of Higher Education Marketing and Digital Environments* (pp. 79-99). Springer Gabler, Wiesbaden.
55. Papacharissi, Z., & Mendelson, A. (2011). Toward a new (er) sociability: Uses, gratifications, and social capital on Facebook (1 st). In *Media perspectives for the 21st century* (pp. 225-243). Routledge.
56. Pizzo, A., Baker, B., Na, S., Lee, M., Kim, D., & Funk, D. (2018). eSport vs sport: A comparison of spectator motives. *Sport Marketing Quarterly*, 27(2), 108-123.
57. Pluss, M. A., Bennett, K. J., Novak, A. R., Panchuk, D., Coutts, A. J., & Fransen, J. (2019). eSports: The chess of the 21st century. *Frontiers in Psychology*, 10, 156.

58. Pu, H., Kim, J., & Daprano, C. (2021a). Can eSports substitute traditional sports? The convergence of sports and video gaming during the pandemic and beyond. *Societies*, 11(4), 129.
59. Pu, H., Xiao, S., & Kota, R. W. (2021b). Virtual games meet physical playground: Exploring and measuring motivations for live esports event attendance. *Sport in Society*, 1-23.
60. Qian, T. Y., Matz, R., Luo, L., & Xu, C. (2022a). Gamification for value creation and viewer engagement in gamified livestreaming services: The moderating role of gender in esports. *Journal of Business Research*, 145, 482-494.
61. Qian, T. Y., Wang, J. J., & Zhang, J. J. (2020a). Push and Pull Factors in E-Sports Livestreaming: A Partial Least Squares Structural Equation Modeling Approach. *International Journal of Sport Communication*, 13(4), 621-642.
62. Qian, T. Y., Wang, J. J., Zhang, J. J., & Hulland, J. (2022b). Fulfilling the basic psychological needs of esports fans: A self-determination theory approach. *Communication & Sport*, 10(2), 216-240.
63. Qian, T. Y., Wang, J. J., Zhang, J. J., & Lu, L. Z. (2020b). It is in the game: Dimensions of esports online spectator motivation and development of a scale. *European Sport Management Quarterly*, 20(4), 458-479.
64. Qian, T. Y., Zhang, J. J., Wang, J. J., & Hulland, J. (2020c). Beyond the game: Dimensions of esports online spectator demand. *Communication & Sport*, 8(6), 825-851.
65. Raney, A. A. (2012). Chapter 19-Why We Watch and Enjoy Mediated Sports: Chapter taken from *Handbook of Sports and Media* ISBN: 978-0-203-87367-0. Routledge Online Studies on the Olympic and Paralympic Games, 1(46), 339-356.
66. Raney, A. A., & Depalma, A. J. (2006). The effect of viewing varying levels and contexts of violent sports programming on enjoyment, mood, and perceived violence. *Mass Communication & Society*, 9(3), 321-338.
67. Ranjbari, M., Esfandabadi, Z. S., Zanetti, M. C., Scagnelli, S. D., Siebers, P. O., Aghbashlo, M., ... & Tabatabaei, M. (2021). Three pillars of sustainability in the wake of COVID-19: A systematic review and future research agenda for sustainable development. *Journal of Cleaner Production*, 297, 126660.
68. Ratten, V. (2020). Coronavirus disease (COVID-19) and sport entrepreneurship. *International Journal of Entrepreneurial Behavior & Research*, 26(6), 1379-1388.
69. Rojas-Valverde, D., Córdoba-Blanco, J. M., & González-Salazar, L. (2022). Cyclists or avatars: is virtual cycling filling a short-term void during Covid-19 lockdown?". *Managing Sport and Leisure*, 27(1-2), 158-162.

70. Salamzadeh, A., & Dana, L. P. (2022). A systematic literature review of crisis management in and by small and medium-sized enterprises. Small and Medium Sized Enterprises and the COVID-19 Response, 38-61.
71. Schaeperkoetter, C., Bass, J., & Bunds, K. S. (2016). Wrestling to understand fan motivations: examining the MSSC within the WWE. *Journal of Entertainment and Media Studies*. Vol, 2(1), 110.
72. Seo, Y. (2013). Electronic sports: A new marketing landscape of the experience economy. *Journal of Marketing Management*, 29(13-14), 1542-1560.
73. Sjöblom, M., & Hamari, J. (2017). Why do people watch others play video games? An empirical study on the motivations of Twitch users. *Computers in Human Behavior*, 75, 985-996.
74. Sjöblom, M., Macey, J., & Hamari, J. (2020). Digital athletics in analogue stadiums: Comparing gratifications for engagement between live attendance and online esports spectating. *Internet Research*, 30(3), 713-735.
75. Stander, F. W. (2016). See you at the match: Motivation for sport consumption and intrinsic psychological reward of premier football league spectators in South Africa. *SA Journal of Industrial Psychology*, 42(1), 1-13.
76. Stander, F. W., Van Zyl, L. E., & Motaung, K. (2016). Promoting fan engagement: An exploration of the fundamental motives for sport consumption amongst premier league football spectators. *Journal of psychology in Africa*, 26(4), 309-315.
77. Stehmann, J. (2020). Identifying research streams in online gambling and gaming literature: A bibliometric analysis. *Computers in Human Behavior*, 107, 106219.
78. Sweeney, K., Tuttle, M. H., & Berg, M. D. (2021). Esports gambling: Market structure and biases. *Games and Culture*, 16(1), 65-91.
79. Tang, T., Cooper, R., & Kucek, J. (2021). Gendered Esports: Predicting why men and women play and watch esports games. *Journal of Broadcasting & Electronic Media*, 65(3), 336-356.
80. Tang, T., Kucek, J., & Toepfer, S. (2022). Active within structures: Predictors of esports game-play and spectatorship. *Communication & Sport*, 10(2), 195-215.
81. Tariq, Q. (2021). Report: South-East Asia's eSports gamers and viewers prefer a mobile-first experience. Retrieved 2 July 2022 from <https://www.thestar.com.my/tech/tech-news/2021/09/13/report-south-east-asias-esports-gamers-and-viewers-prefer-a-mobile-first-experience>
82. Toh, B. (2019). Can Malaysia's eSports go mainstream?. Retrieved 2 September 2022 from <https://www.theedgemarkets.com/article/can-malaysias-esports-go-mainstream>
83. Trail, G. T. (2012). Manual for the motivation scale for sport consumption (MSSC). Center for Sport Consumer Research, 1-9.

84. Vale, L., & Fernandes, T. (2018). Social media and sports: driving fan engagement with football clubs on Facebook. *Journal of strategic marketing*, 26(1), 37-55.
85. Wagner, M. G. (2006, June). On the Scientific Relevance of eSports. In International conference on internet computing (pp. 437-442).
86. Weiner, J., & Dwyer, B. (2017). A new player in the game: Examining differences in motives and consumption between traditional, hybrid, and daily fantasy sport users. *Sport Marketing Quarterly*, 26(3).
87. Whiting, A., & Williams, D. (2013). Why people use social media: A uses and gratifications approach. *Qualitative Market Research: An International Journal*, 16(4), 362-369.
88. Wu, Y., Cheng, Y., Yang, X., Yu, W., & Wan, Y. (2022). Dyslexia: A Bibliometric and Visualization Analysis. *Frontiers in Public Health*, 10.
89. Xiao, M. (2020). Factors influencing eSports viewership: An approach based on the theory of reasoned action. *Communication & Sport*, 8(1), 92-122.
90. Xu, X. Y., Luo, X. R., Wu, K., & Zhao, W. (2021). Exploring viewer participation in online video game streaming: A mixed-methods approach. *International Journal of Information Management*, 58, 102297.
91. Yamanaka, G. K., Campos, M. V., Roble, O. J., & Mazzei, L. C. (2021). eSport: a state-of-the-art review based on bibliometric analysis. *Journal of Physical Education and Sport*, 21(6), 3547-3555.
92. Yen, M. T. H. (2022). The Effect of Video Games on Moral Decision Making: Empathy as a Moderator. *Jurnal Psikologi Malaysia*, 35(3), 141-153.
93. Yeoh, A. (2022). Malaysia wins 3 gold medals at Commonwealth Esports Championships. Retrieved 31 August 2022 from <https://www.thestar.com.my/tech/tech-news/2022/08/08/malaysia-wins-3-gold-medals-at-commonwealth-esports-championships>
94. Yu, B., Brison, N. T., & Bennett, G. (2022). Why do women watch esports? A social role perspective on spectating motives and points of attachment. *Computers in Human Behavior*, 127, 107055.
95. Yu, Z., Waqas, M., Tabish, M., Tanveer, M., Haq, I. U., & Khan, S. A. R. (2022). Sustainable supply chain management and green technologies: a bibliometric review of literature. *Environmental Science and Pollution Research*, 1-17.
96. Yunus, Y. H. M., Yusoff, N. H., & Ng, C. Y. (2021). Factors Influencing the Involvement of Malaysian Youths in Massively Multiplayer Online Role-Playing Games (MMORPGs). *Journal of Techno-Social*, 13(1), 59-67.
97. Yusoff, N. H., & Basri, S. (2021). The role of socialisation towards participation of Malaysia female players in e-sport. *International Journal of Social Science Research*, 3(1), 132-145.

**Chee Ngee Lim** is a PhD candidate in the Graduate School of Business, Universiti Sains Malaysia (USM), Malaysia. Her research interests include business management, consumer behaviour and marketing.

**Yen Nee Goh** is a senior lecturer at the Graduate School of Business, Universiti Sains Malaysia (USM), Malaysia. She teaches International Marketing, Seminar in Marketing and Global Business at the institution. Currently, she is the Cluster Head of Marketing Research for the Graduate School of Business. Additionally, she serves on the editorial board of an international publication.

**Salmi Mohd Isa** is an Associate Professor at the Graduate School of Business, Universiti Sains Malaysia (USM), Malaysia. She teaches Master of Business Administration and Master of Neurocognitive at the institution. In addition, she works at the Malaysian Institute of Integrity as a teaching fellow and a trainer of trainers (TOT).

**Ramayah Thurasamy** is a Professor at the School of Management, Universiti Sains Malaysia (USM), Malaysia. He teaches Research Method, Statistics, Management Information System at the institution. In addition, he is the Adjunct Professor, Visiting Professor, Editor Board, a few renowned journals reviewer, Book Assessor and Keynote Speaker at present. Additionally, he is also a consultant for several companies and MOH.

**Norazah Mohd Suki** is a Professor of Marketing and E-Commerce at the Othman Yeop Abdullah Graduate School of Business, Universiti Utara Malaysia (UUM), Malaysia. She teaches Marketing Research, Research Methodology, Consumer Behaviour and Marketing Management at the institution. She is also the editor of several books indexed by SCOPUS. In addition, she has extensive expertise as an invited speaker for Structural Equation Modeling (SEM), Statistical Package for Social Sciences (SPSS), and research methodology.