Esports events: classification and impact of business model of video games on size

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Abstract

Esports events are not commonly researched in academic literature. This research aims to provide a higher degree of understanding around esports, esports events and their size, and to develop a framework for future research. Video game business models are considered, as their link with esports is not often examined. Overwatch is also investigated as a case study of a single video game and its associated esport. The methodology employed is based on mixed methods. A pragmatic approach is utilised, adjusting the research philosophy based on the most suitable approach for each part of the study. The research design evolves based on the findings and the methods used in the previous chapters. Chapter 4 utilises a mixed methods approach, chapters 5 and 6 both use a quantitative method, before chapter 7 uses a qualitative, case study like technique. Chapter 4 explores the determination of a framework to measure size of events and such framework is created, with 1 event being classed as "giga", 16 as "mega", 15 as "major", and 11 as "minor". Chapter 5 undertakes a similar pursuit but utilising an index to rank sizes. There are no large differences in score or in class, and there is a high degree of correlation between the index and the classification from the previous chapter. Chapter 6 explores event size vs. video game business model, finding that events associated to buy-to-play and free-to-play games have a larger size than events associated to pay-to-pay games. Chapter 7 analyses Overwatch and concludes that a switch to a free-to-play model would be beneficial for Overwatch, and for its associated esport Overwatch League. A number of recommendations are made as a result of the research undertaken. Better collection and organisation of data on esports would be beneficial for future research. A centralised governing body would help with a number of aspects in esports. More research could be undertaken into business models, into the implication of choosing one over another and switching between them. A research centre at the European level would also be beneficial, as would the growth of formal structures around esports and esports research.

Table of Contents

Table of Abbreviations

Abbreviation	Meaning
AR	Augmented Reality
ASEF	Asian Electronic Sports Federation
B2P	Buy to play
CoD	Call of Duty
CS: GO	Counter Strike: Global Offensive
Dota	Defence of The Ancients
EEF	European Esports Federation
ESL	Electronic Sports League
EU	European Union
EVO / ECS	Evolution Championship Series
F2P	Free to play
FIFA	Fédération Internationale de Football Association
FPS	First Person Shooter
GEF	Global Esports Federation
IEF	International Esports Federation
IEM	Intel Extreme Masters
IeSF	International Esports Federation
IOC	International Olympic Committee
IP	Intellectual property
KeSpa	Korean Esports Association
LAN	Local Area Network
LoL	League of Legends
MLG	Major League Gaming
MMORPG	Massively Multiplayer Online Role-playing Game
MR	Mixed Reality
NBA	National Basketball Association
NFL	National Football League
OWL	Overwatch League
P2P	Pay to play
PEA	Professional Esports Association
PGL	Professional Gamers League
PUBG	PlayerUnknown's Battlegrounds
RLCS	Rocket League Champions Series
RTS	Real Time Strategy
TI	The International
UKespa	United Kingdom Esports Association
VR	Virtual Reality
WEA	World Esports Association

List of Figures

List of Tables

List of Appendices

Appendix number	Appendix description
Appendix 3.1	Ethical approval
Appendix 4.1	Event scores data
Appendix 4.2	Final event sizes
Appendix 5.1	Full index dataset

1. Introduction

1.1 Background and aims

Esports is commonly used as a term to describe competitive video gaming, sometimes including a spectator element, much like with traditional sports (British Esports, 2016). As explained by Leroux-Parra (2020a) esports is currently in a grey area, where competitors are incredibly popular, but the differences that exist between countries and a lack of a central defined rule set creates a high degree of complexity. Other basic definitions are broader, just suggesting that esports describes the world of competitive, organised video gaming, with examples of esports including Fortnite, League of Legends, Counter Strike (CS: GO), Call of Duty (CoD), Overwatch and Madden NFL (Willingham, 2018). The term ‘esports’ describes an array of different activities and types of video games played competitively. Rules vary greatly across games, genres, and game modes, and currently, the publisher of each game determines the rules for their game freely, hand out punishments when necessary, and ensures integrity (British Esports, 2016). Esports is often discussed alongside streaming, which is often facilitated by platforms like YouTube or Twitch. The interaction between esports and streaming is strong, with Leroux-Parra (2020a) providing a good example:

> “You can live in Canada, tune into a stream broadcast by a North American player, like Zachary “Sneaky” Scuderi; change your mind and watch a European

player, like Marcin “Jankos” Jankowski; before tuning into a Korean stream from someone like Faker, all with the click of a button on a single streaming platform”.

All of these figures are genuine high tier esports competitors, and streaming helps to spread their influence. Recently, esports has grown significantly. Audience size is predicted to grow 8.7% year on year to reach 532 million in 2022, driven by new popular franchises like Valorant, the expansion of mobile gaming, and development in high growth areas like Latin America and the Middle East (Tristão, 2022).

Esports and esports events are inherently linked. At the pinnacle of all major esports are events like the PGL Majors in CS: GO, or Rocket League’s RLCS, and it is these events and tournaments which elite players strive to reach. Despite this, academic research has not widely considered esports events, instead focusing on specific aspects of esports rather than treating it as its own research area. Esports events are typically either ‘open’, which means that anyone is free to enter, or ‘closed’, which are invite only. Larger esports events can have several qualifying rounds or linked tournaments, multiple regions, and a large number of competitors (Warlock, 2021). The Fortnite World Cup in 2019, for example, had over 40 million competitors in its qualifier events (Epic Games, 2019). Within esports events, competitors and teams might have specific maps [1]they excel on across a series of games, usually with a group stage and a knockout

[1] A map is a virtual location for competition. Teams will perform differently and have different tactics depending on what map is being used

stage before a final. There are many motivations for competitors to engage with esports events, for example to provide them a platform for more organised competition, gives them validation, and pushes them to develop their skills (Salama, 2020). For spectators, motivations are varied but comprehensible. Examples outlined by Gaudiosi (2015) include attending to be a part of the gaming community, to watch their favourite players and teams, to connect with friends they met online, and to get better at the game, with one respondent suggesting that they attend “for the same reason someone would attend an NFL game, I love watching the game played at the highest level”.

The aims of this study are to explore the classification of esports events based on their size, analyse the impact the business model utilised by the videogames associated with the esports has on the events themselves, and examine the opportunity to change its business model for a video game, based on the case of Overwatch. Esports is often researched from more niche perspectives or through the lens of other areas of research but is not often considered as its own research area. Research specifically considering esports *events* is even less common, particularly when considering how the two typically come hand in hand. There are often competitive, esports-like elements which take place outside of events, but esports events are the pinnacle and are what most esports teams train for and strive towards. There is also an acknowledged lack of formalised frameworks within esports, which adds further justification for this thesis. It is within this gap, around esports events, that this research is conducted.

This chapter provides an overview of the thesis, including the rationale for studying esports and esports events. It gives some background and context for esports, including a brief definition of esports, why it is important to study and the originality of the thesis, before the technical detail is outlined. The problem statement, research questions, and the research aims, and objectives will be detailed, before finally the organisation of the thesis going forward is provided.

1.2 Rationale for studying esports, esports events and Overwatch: the importance of the sector and the questions surrounding Overwatch's business model

1.2.1 What is esports? Sport or not a sport?

The definition of esports is contested across academic research on esports. Some academics argue that esports is sport and should be acknowledged as such, while some argue that esports is not. One of the earliest and most significant definitions is by Wagner (2006:4): "an area of sport activities in which people develop and train mental or physical abilities in the use of information and communication technologies". This definition is itself based on an accepted definition of sports. Some definitions of sport are compatible with definitions of esports, and some are not, but the position adopted in this thesis aligns with that of Scelles et al. (2021), who determine that esports are a particular form of sports after identifying a mix of economic similarities and differences. The definition adopted by this thesis is outlined by Cranmer et al. (2021:117), who

undertake an extensive review of existing literature before developing their own definition of esports: “electronic sports (esports) involves competitive, organised or technologically enabled activities encompassing varying degrees of physicality, virtuality and technological immersion”. This definition is chosen as it remains broad enough to cover the majority of popular and large esports, while not including specific elements that reduce its usability. Both the definition of esports and the possibility of esports being a form of sport are explored and debated thoroughly in chapter 2, where academic and non-academic perspectives are included.

1.2.2 Characteristics of esports: stay up versus up and down

Esports and esports events have some specific characteristics which are relevant to consider when conducting research in this area. The area is shifting and developing rapidly, the biggest or most popular esports can change year to year, and there is a lack of set, dominant esports apart from a select few right at the top, which are also subject to change. There are a number of examples with longevity, with games like Street Fighter 5 and others in the series having had competitive events for over 20 years (esportsearnings.com, n.d.; Crecente, 2008). League of Legends, still widely regarded as one of the largest esports globally, has held developer organised or approved events for over 10 years, and remains one of the most watched events, being broadcast to 18 countries in 2021 and breaking records for watch time and peak viewers (Fudge, 2021). Dota 2 is another esport which, when discussing noteworthy events, has to be discussed. Dota 2 has been large in esports for a long time, particularly so when

considering prize money (to be discussed in chapter 3) (Reilly, 2011). However, there are examples of particularly large esports which have been significant but have since died off. Overwatch is the subject of discussion for a later chapter (chapter 7), which had a bright future in esports from the launch in 2015, with small community focused events before the game had even left the beta development stage (Lingle, 2015). Since then, the developer has developed the esport into one of the largest with professional teams and large sponsors, but in recent times a number of issues with the league system have arisen. Fortnite is another example of a game which has hosted large events with eye catching prize pools and large viewership but has since seen criticism for treating its esport less seriously, with much smaller prize pools (Funke, 2021). There was a peak in 2019 of $51m, and a peak in viewership also, but large decreases in both in the following three years (ESCharts, 2022). A number of noteworthy professional players have quit recently (Wilkins, 2022). Viewership of Fortnite has clearly fluctuated, with a drop from Fortnite's peak of over 200m viewers in July 2018 to under 70m in November 2021. This is still a significant amount but should be seen in the context that even as one of the dominant esports in the industry, Fortnite has decreased in significance.

Individual esports can grow to be significantly sized then taper off in relatively short amounts of time, particularly when compared to the longevity of larger sports like football, cricket, or tennis, although even these sports have experienced a tortuous path historically, with many different versions and various rules being created and then dismantled/adapted. This is an acknowledged characteristic and feature of esports and

esports events. When the amount invested into these esports is accounted for, the length of time they are successful is even more surprising. One of the most significant ‘deaths’ was Heroes of the Storm (HotS), developed by Blizzard. HotS had esports elements from its launch with college level esports, then a full esports schedule from 2016 until 2018 when Blizzard abruptly ceased their support. Players and teams were committed to the developer-led series before it was folded (Upcomer, 2021). There is now a community-led league, but players acknowledge that it is not at the same scale. Esports often drop in popularity due to developer decisions, similarly to HotS. Battlefield Heroes was a free-to-play title released in 2009 by EA which had an emerging competitive scene before an update caused any potential esport to be killed off. In the middle of an early esports tournament hosted in 2009, the game introduced microtransactional elements and a pay-to-win environment which caused teams to withdraw and many players to quit (business models of videogames is discussed extensively in chapters 6 and 7) (Upcomer, 2021). Paladins is another example of an esport which, it could be argued, abated due to developer decisions. Changes to the in-game currency and the heroes, a switch from an online to a LAN-focus, and a broadcast exclusivity deal all caused a once burgeoning esport to decrease in popularity until a cancellation in 2019 (Upcomer, 2021).

What these examples show is that even with a strong position, a large player base, or a strong focus on esports, there is the potential for influence to wane rapidly. This results in change in what the vogue or popular esports are. This change can be quick (such as

with HotS) or can evolve over time (such as the gradual increase in popularity of CS: GO). This variety is a characteristic of esports.

1.2.3 Developer / publisher control

As shown, esports can be successful based on the management decisions made by a developer. Leroux-Parra (2020b) argues developer involvement in esports events comes in two forms. There are hands-off developers like Microsoft and Nintendo, who do not get involved in directly organising esports events for their video games, allowing the community to organise tournaments and competitions with their approval. This can also be extended to arranging esports events through a third party. Nintendo, for example, with their 'Smash Bros. series' have employed a company to run their events for them (Wilde, 2021). Hands-on developers are the alternative, where developers actively organise the professional esports elements of their games. Examples include Riot Games, Activision Blizzard, and Valve, and as noted by Leroux-Parra (2020b), these are argued to be the fastest growing. This means that the developers own the rights for the game and the competitive elements, and that they have control over the way the game is played. It could be argued, however, that some modern video game developers are much larger than those even 10 or 15 years ago, meaning sometimes within a single company (for example, Activision-Blizzard) there can be examples of hands-off and hands-on titles.

1.2.4 Increasing viewership

Viewership in esports is increasing and has been over a significant amount of time. As of 2021, there are an estimated 234 million esports enthusiasts, with enthusiasts seen as the more dedicated groups of viewers, and 240 million occasional viewers for a total audience of 474 million, representing an 8.7% increase versus 2020 (Takahashi, 2021), with this figure predicted to reach 577.2 million by 2024, made up of 291.6 million occasional and 285.7 million enthusiast viewers. Tangential but strongly linked to esports viewership is game live streaming, which is predicted to reach 920.3 million by 2024. This lacks the competitive and professional elements within esports but is strongly linked due to competitors often streaming their perspectives or their non-professional games. In 2019, there were 197 million enthusiasts and 200.8 million occasional viewers, which represents a significant rise over a short time period (Geyser, 2022). The largest esports include League of Legends, which in 2021 had 4 million viewers at its peak, which is particularly high when considering this does not include data from Chinese streams of the esport (Esguerra, 2021). Dota 2 is the next most popular, with 2.7 million peak viewers (Daniels, 2021a). Perhaps even more important to consider is that traditional sports viewership is declining at a time where esports is increasing (Goff, 2019). As explained by Leroux-Parra (2020a), the boom within esports is that significant that most major popular video games have a form of “pseudo-professional circuit”, with an example given as Farming Simulator 2019. However, some argue that esports growth is plateauing in some regions, with the US seen to be still growing from 2019 until 2023, but that growth decreasing each year, from 27.4% in

2019, 13.2% in 2020, 11.4% in 2021, and forecasts at that point for esports to grow by 11.5% in 2022 and 6% in 2023 (Insider Intelligence, 2022).

Esports viewership has a demographic which is seen to be of particular interest to marketing and advertising firms: “valuable, digital, high-income, passionate young people who are less accessible through traditional sponsorships and media buys” (Lalonde, n.d.). The esports demographic is comprised of 18- to 34-year-olds, with 30% women and 70% men, and the example is given of an event (The International), where 95% of the prize pool has been generated by purchases by this engaged demographic through in-game purchases (Lalonde, n.d.). Potentially the most important consideration of esports is the potential for it to be globally appealing. As explained by Lee (2019), esports does not have a link to any religion or culture, meaning it has a more global appeal, and as a result has the potential to build more commercial value.

1.2.5 Regional differences

There are a number of differences between regions that are significant when considering esports and esports events as a research area. There is a trend of mobile gaming and mobile esports being prominent in East Asia, and when compared to Western markets, this is even more stark, when Western esports events tend to not focus on mobile gaming and more on PC or console (Daniels, 2022). There are also regional differences between female participation, for example South Korea has 32% female participation, China has 30%, and the UK has 25% (The Game Haus, 2022).

McAlpine (2021) also highlights differences in popularity across regions. It is suggested that Overwatch is most popular across Asia, while CS: GO and CoD are most popular in Europe. Some games, typically less reliant on esports related aspects, are popular across the world. Nintendo and their Zelda and Super Mario series are popular regardless of location. Their ‘Smash Bros. series’ does have some competitive, esports components but is still popular worldwide. McAlpine (2021) argues that games like Overwatch tie into anime culture, where CS: GO and CoD align with more Western ideals around action films. Console sales are also seen as an influence on regional differences, with, for reference, the original Xbox selling much fewer in Japan versus the US. McAlpine (2021) concludes by arguing that games like Valorant are an attempt to reach both sides of the market.

Snoddy (2021) outlines a similar argument, that Eastern and Western esports developed differently and are different entities. Esports in the East emerged through a combination of the 1997 financial crisis and a high level of unemployment, the rise of internet cafes and LAN centres, and the growth of popularity of StarCraft. This resulted in South Korea in particular being receptive to esports, founding The Korea esports Association (KeSPA) to regulate esports, promote careers and encourage participation. Other countries in Asia still hold stigmas towards esports, however. In the West, esports is argued to have grown with the increase in popularity of Counter Strike, with the first tournament taking place in 2001. Counter Strike and its series have had a prominent role in subsequent tournaments including ESL (previously known as Electronic Sports

League) and Major League Gaming (usually referred to as MLG). Snoddy (2021) emphasises some of the fundamental differences between the East and West. Eastern esports focus on team-based collaboration and communication, whereas Western titles have the opportunity to display individual skill and personal achievement. Examples of Eastern games include LoL, Dota 2 and Overwatch, where early Western videogames were 1v1 such as Quake and Street Fighter, before first-person shooter (FPS) games like Counter Strike, CoD and Halo grew in popularity, which, as Snoddy (2021) outlines, rely on individual performance for team success. Western and Eastern teams compete in common games like LoL and Dota 2, but these are often dominated by Chinese and Korean teams.

Societal impact is a large difference between East and West. Eastern esports have cultural importance, such as in South Korea where TV channels and leagues were founded around esports, with mainstream popularity and corporate sponsorship. As explained by Snoddy (2021), many South Korean esports professionals are as famous as movie stars, as with China where some of their competitors are among the highest earners in the world. This is a stark difference to the West, where esports athletes are not well known outside their respective communities. In video games within the West, it tends to be content creators rather than professional players that are widely known. There are some societal issues which vary between nations, for example Japan deems prizes from esports gambling, meaning prize money is capped. The Chinese esports market has some similar restrictions, with bans on certain titles and a recent cap on

video gaming for under 18s of three hours a week. In the West fewer formal restrictions are in place but a stigma exists around potentially earning a living through esports. Snoddy (2021) concludes by suggesting that the pioneering actions of early Western and Eastern esports have paved the way for the rest of the world, like the Brazilian CS: GO team FURIA.

1.2.6 Why Overwatch?

This thesis intends to examine Overwatch, exploring its existing esports structure to determine if it would be suitable for a switch to F2P, from its existing B2P model. Overwatch is used as a case study as it has an interesting position as an esport which was one of the largest but has since waned. Overwatch has also embraced a system which is close to that of a traditional sports league and has also been the focus of a seminal author in the field (Scholz, 2021). Overwatch is a first-person team-focused shooter-based game released in 2016 with large player base (50m players towards the end of 2019; Valentine, 2019) and esports community. The game was not designed specifically for esports but has since embraced it, using a league-based system with franchising, high-level branding, and professionalism. Overwatch League is the associated group managing the elite level of gameplay, with teams being permanently linked with a specific city and players being assured of a salary and benefits based on team performance (OverwatchLeague.com, 2020). In 2016, the year Overwatch was launched, Twitch announced that it was the most popular game on the platform, as outlined by Curtin (2017). In the following years, Richman (2021) underlines that the

game sustained its success, reaching 35m players in 2017, then peaking at around 50m players in 2018. However, only around 800,000 people played Overwatch concurrently in June 2021 (TechACake, 2022). Besides, Twitchtracker (n.d.) reports that Overwatch is currently the 27th most watched game with 2.63m viewers, including 1.55m viewers for the Overwatch League finals 2020, while it was 3rd in January 2018 (TechACake, 2022). This means that, since its launch, Overwatch has suffered from a decline, leading to its current position. These points are confirmed by Das (2021) who argues that a lack of new content is causing the “death” of the game and a severe reduction in viewership.

Overwatch has faced suggestions it should convert from a buy-to-play (B2P) to a free-to-play (F2P) model, under pressure from other free games such as Fortnite and Valorant. For example, Holt (2020) argues that due to a lack of future content development, the planned sequel not being released imminently and a potential stagnation of profit sources, Overwatch should embrace a F2P model. Broadly speaking, three different options for monetisation exist within the videogame industry: B2P, pay-to-play (P2P) and F2P (Massarczyk et al., 2019).

These are important issues as Overwatch and its associated esports represent a significant population of players and viewers, and a change of business model would impact this population. Furthermore, developing a framework to assess relevant criteria based on recent, appropriate, and complementary sources can also open the door to extend findings and discussion of this article to other videogames and their associated esports.

1.2.7 Importance and originality of study

Esports as a topic for academic study has increased in popularity, driven by technological advancement like increased prominence of online gaming, increased access to high tier competition, and increased access to technology (Cranmer et al., 2021). This growth in popularity has seen an increase in attention from academic researchers, with an acceleration in publications and citations from 2015 onwards, increasing year-on-year to a peak in 2021 of 2225 citations and 205 publications, and an average of 90 publications each year (Clarivate Analytics, n.d.). The rise in popularity for esports can be supported by several figures. Over a third of the planet play video games (39%, or 3 billion), and in 2019 the esports market overtook the size of the music and film industries combined, worth over $175bn (Stewart, 2019). In the US, the industry accounts for just under 429,000 jobs and contributes $90.3bn to the US economy (Tripp et al., 2020). All of these factors influence the increase in esports as an academic topic, however, there are issues with the research area, identified by Cranmer et al. (2021), that mean that there are potential improvements to be made. As explained by Steinkuehler et al. (2019:1), despite “the rise, and continued industry growth of esports over the last decade, to date there is little effort to coordinate research related to the subject”; this is part of what this thesis tries to explore. Cranmer et al. (2021:117) identify, through Hallman and Giel (2018) and Steinkuehler et al. (2019), that much esports research is qualitative, exploratory, and not generalisable, and there is no agreement on how to define esports and the limits on esports, meaning it covers a wide range of activity and as a result the construction of knowledge is restricted. Cranmer et

al. (2021:117) make the point that categories of esports raise unique challenges and opportunities, and without clear categorisation within esports a gap exists in academic perspectives on “how to capitalise on the opportunities, impact and contribution presented by the esports industry”.

This growth in esports, coupled with the lack of academic frameworks provides fertile ground for research. Furthermore, esports events are an area which despite their clear importance to the wider esports industry, is not studied in depth. Research on esports events is a fraction of that on esports, with 2.4 publications per year and a peak of 4 in 2020 and 2022 as of 10th July (Clarivate Analytics, n.d.). This highlights where this thesis sits and the topic it considers.

1.2.8 Expected contributions

This research is expected to provide significant contributions to a number of areas. From an academic perspective, there will be a decisive effort to clarify the ambiguity around the definition of esports, as there is confusion and conflict currently. By extensively reviewing existing esports definitions a conclusion can be drawn as to what features are crucial to a definition of esports, attempting to remain broad enough to cover a wide array of competitive video game activity. This thesis will also attempt to add some academic rigour to the process of considering esports events, by using methods established in sports literature as part of seminal research. By treating analysis of esports events as its own, distinct research area as is true of sports research, it is hoped that some unique insight will be drawn. Academic analysis will also be used to

consider esports as its own research area, rather than as a secondary pursuit. It is expected that this research will have implications across a multitude of areas. At a basic level, esports is seen as a growing area for investment, with acquisitions, funds and construction related to esports taking place. Esports is being seen as more important across a number of industries, including education, marketing and content creation. Esports is also seen as increasingly important to politics from a number of perspectives.

An example of an area that this thesis may have a theoretical contribution on is the area of cultural economics. Video gaming and the professional element of it (esports) have become an increasingly significant cultural phenomenon. Esports has grown quickly, and esports events are seeing rapid and sustained growth in popularity and interest. There is a useful need to gain an understanding of the size, scope and evolution of these events. Video gaming / esports is now a substantial part of the cultural sector. Events are important in this area (e.g., performing arts is based on live production, concerts for music, etc.). Besides, a classification of esports events further validated by an index can inspire other industries within the sector.

1.2.9 Discipline of study

Research on esports events can fit into many disciplines of study, depending on the specific focus of the research. For example, sports studies (understood here as the social sciences, humanities and management disciplines of sport; Valenti et al., 2018) could be relevant, given many esports events share similarities with sports. If considering esports from a sports studies perspective, the focus might focus on players'

performance, team dynamics, or spectators and fans. In general, research on esports can be interdisciplinary as it touches on a number of research areas. The research questions outlined in this thesis, however, associate the topic most closely with economics, with some strong interdisciplinary elements. More directly however, the objectives and methods used determine that an approach closely align the thesis with economics, and sports economics. After the literature review, the area of study becomes more focused. Chapter 4 has influences from event management, and applies established, seminal work from Müller (2015), which is interdisciplinary in nature, and Flyvbjerg (2014) which is closely aligned with the study of project management. The influence of these two authors is then uses methods, along with chapter 5, which is closer to that of sports economics (see Chatzistamoulou, Kostas and Theodor, 2021; Depken, 2002). Chapter 6 also uses a traditional method associated with economics and econometrics, which is often used in sports economics (see Humphreys and Johnson, 2019). Chapter 7 uses a mixed approach, which is anchored in the study of video games broadly (Massarczyk, Winzer and Bender, 2019; Luton, 2013), and operational research (Seidl et al., 2018).

The implications and discussion around the thesis are interdisciplinary in nature, but the methods used dictate that this thesis and the analysis chapters are anchored in economics and sports economics. The methods used, such as the development of an index and regression analysis are central methods within economics, and are increasingly used in sports economics.

1.3 Research objectives & questions

Consistent with the two research aims presented in section 1.1, three research questions are formulated. These are based on the research objectives, which will now be outlined.

The first objective of this research is to build knowledge and understanding around esports events and their size, and to develop a framework which is seen as a first step towards an established method of evaluating size. This is based on there being models like this for the evaluation of traditional sports events, but not for esports events.

The second objective is to examine the impact of a business model utilised by a video game on the size of its esports events. This objective attempts to question the idea that a business model (such as F2P) could result in events being larger in size. It could be theorised that more players could result in more viewers, higher prize money, etc., and this area of the research aims to examine this.

The third research objective related to Overwatch, exploring its existing esports structure to determine if it would be suitable for a switch to F2P, from its existing B2P model. Overwatch is used as a case study as it has an interesting position as an esport which was one of the largest but has since waned. Overwatch has also embraced a

system which is close to that of a traditional sports league and has also been the focus of a seminal author in the field (Scholz, 2021).

These research objectives help formulate the research questions:

RQ1: Which factors should be part of a classification of esports events based on their size and how to score them?

As esports is in its infancy and esports events have not been studied extensively, the first aim of this research is to explore the classification of esports events. The development of this research question is inspired by research into traditional sport events and mega-projects, such as by Müller (2015) and Flyvbjerg (2014). This established and influential research defines what factors should be included and what determines the size of a sporting event or mega-project. This is the inspiration for this research, namely that there is a lack of established frameworks that work towards establishing what determines the size of esports events and what should be used to establish a framework similar to Müller (2015) and Flyvbjerg (2014). Similarly, how important each of these factors is in the wider scope of the size of an event and how they should be scored is to be explored through this research question.

RQ2: How does the business model of video games impact esports event size?

Business model is something examined extensively outside of esports, and considered somewhat within academic study of video games, but has not been studied specifically considering esports. This is surprising given the differences between the different styles of business models and the implications of choosing one (or cherry-picking individual elements) over another. More recently, free-to-play games like Fortnite have become popular based on no initial purchase cost alongside optional cosmetic items, while also having an extensive esport system. This interaction between the size of an esport and the business model employed by the associated video game is what this research question intends to explore by building on the previous question and its exploration of the sizes of esports events.

RQ3: What are the consequences of a switch of business model to free-to-play for Overwatch?

The intention of this research question is to initiate an examination of Overwatch, as a form of case study. Switching between business models is something not considered extensively. The idea is to apply the concepts explored around RQ2 and the impact of business model on a videogame and associated esport. Overwatch is an interesting

case to study in the wider context of esports as one which has evolved over time and has been prominent within esports for a long period but has faced issues recently with decreasing player numbers and a decrease in interest. Esports, as explained previously, is constantly evolving, and changing, and Overwatch can provide a study in longevity in esports. The switch of business model and the examination of this is particularly pertinent now, when more publishers are choosing free-to-play, and there are more and more examples of publishers moving between business models. Not many examples exist of switching from buy-to-play to free-to-play, but there are a couple of recent examples in Rocket League and PUBG and some historical examples such as CS: GO that provide justification for examining this. Rocket League and CS: GO have seen the majority of their esports success after this switch also, meaning any potential switch for Overwatch and its esport could also be beneficial.

1.4 Organisation of the thesis

This thesis is made up of ten chapters, including one literature review chapter and four analysis chapters. Table 1.1 provides a description of how this thesis will unfold, what each chapter is titled and a short description of the content in each chapter.

Table 1.1

Outline and description of thesis chapters

Chapter	Title	Content
1	Introduction	Background and context; rationale of thesis, research aims and questions
2	Literature review: Review process, literature on the definitions and characterisations of esports, esports events, business models and	Outlining the process used for literature review, consideration of esports broadly including definitions used throughout, and literature associated with the analysis chapters (4, 5, 6, 7)
3	Methodology	Research approaches adopted; methods used
4	Classification of esports events: comparison to sports mega-events, definition and sizes	Exploration of esports events and their sizes based on established sporting event literature
5	Index construction for the classification of esports events	Development of a composite indicator (index) to establish ranking of esports events, based on chapter 5
6	A consideration of how business model of video games impacts on esports event size	An exploration of how business model (B2P, F2P, P2P) interacts with the size of esports events
7	The consequences of a switch to free-to-play for Overwatch and its esports league	Case study-like approach to Overwatch, its business model and its esport
8	Discussion & conclusion	Discussion of esports and future of esports, definition of esports, formal structures on esports and esports events. Summary of previous chapters and findings, limitations, and future directions

1.5 Conclusion

This thesis aims to identify, classify, and explore esports events before verifying this classification, and applying these ideas to contextual examples. A mixed methods approach (e.g., quantitative scoring of a number of esports events, test of the impact of business model on size, case study of Overwatch) is utilised, alongside a pragmatic technique to explore each point of analysis fully. Given esports is in its infancy and there are gaps in the established research area, different directions can be contributed which are novel. Contributing to the classification of esports events and examining the interaction of esports and the associated business model of their video games can provide a real input to the research area at a time while the area is still evolving.

2. Literature review

2.1 Introduction

This literature review contributes to theory development of the wider thesis, which is being conducted at an early stage of the development of the wider research area, i.e., esports. The literature reviewed lacks a single unifying theoretical and methodological underpinning that is linked to any single academic subject, e.g., esports economics. Research into esports does not have well defined approaches or well defined practices yet. When compared to similar, more well-established research disciplines, for example the study of sports economics, concepts and groupings of ideas are less developed in esports, hence esports rely on the application of existing mainstream disciplines rather than its own disciplines yet. One of the main instances of research where esports apply existing mainstream disciplines includes psychology. For example, Bányai et al (2020) examine the process of becoming an esport player, the characteristics of esport players such as mental skills and motivations, and the motivations of esport spectators from a psychological perspective. This is a typical example of contemporary research conducted in esports. There is a mix of literature sources within this research area. With the wider associated research area of video gaming being so popular worldwide, a plethora of non-academic literature is available for review. Throughout this literature review, academic peer-reviewed sources will be considered, with journal articles, books and book chapters being key, while non-academic sources will also be included. The chapter first outlines the review process before developing the literature about the

definitions and characterisations of esports. It then discusses whether these definitions and characterisations of esports fit with sports, before focusing more specifically on esports events. The rationale as to why the discussion about whether esports are sports comes after the definitions and characterisations of esports is the attempt to define and characterise esports on their own before discussing whether this fits with the definitions and characterisations of sports. The starting point of the present chapter 2 is the recent literature review conducted by Reitman et al. (2019).

2.1.1 Reitman et al. (2019) as a starting point

The recent position of research in esports is well communicated by Reitman et al. (2019), who conduct a wide-ranging literature review on esports. As the authors explain, the research area is evolving. Esports research is also seen to be varied:

> "The work comes from many fields that historically have not been in conversation with one another, yet we find numerous areas of common interest…The academic disciplines represented in the corpus are business, cognitive science, informatics, law, media studies, sociology, and sports science" (Reitman et al., 2019:33).

A number of conclusions are drawn which will have significant impact on this literature review and the methods used. Among the conclusions drawn is a point which will shape the unfolding of this literature review: "Esports research's nascency means there are still fundamental questions about how the field is unfolding. It means researchers involved in the early work—and those introducing the space to unfamiliar fields—have an

opportunity to shape its growth" (Reitman et al., 2019:43). From a business perspective, the argument is made that there are four reasons for the growth in video games: "the value of the experience economy for consumers, the popularity of video games, the social recognition of video game players and advances in technology" (Reitman et al., 2019:35). Also, Reitman et al. (2019:35) discuss that identifying these factors has helped with "exploring motivations for esports consumption, understanding the networks and organizations surrounding the players, and designing effective marketing techniques". This aspect has been explored more extensively by Qian et al. (2020), who develop a scale for studying motivations around spectatorship in esports and identify motivations for watching esports online. Findings are developed by acknowledging the work of Hamari and Sjöblom (2017) who highlight escapism, acquiring knowledge about the games being played, novelty and esports athlete aggressiveness as motivations. Two new motivations are identified by Qian et al. (2020:471), namely "skill improvement and vicarious sensation".

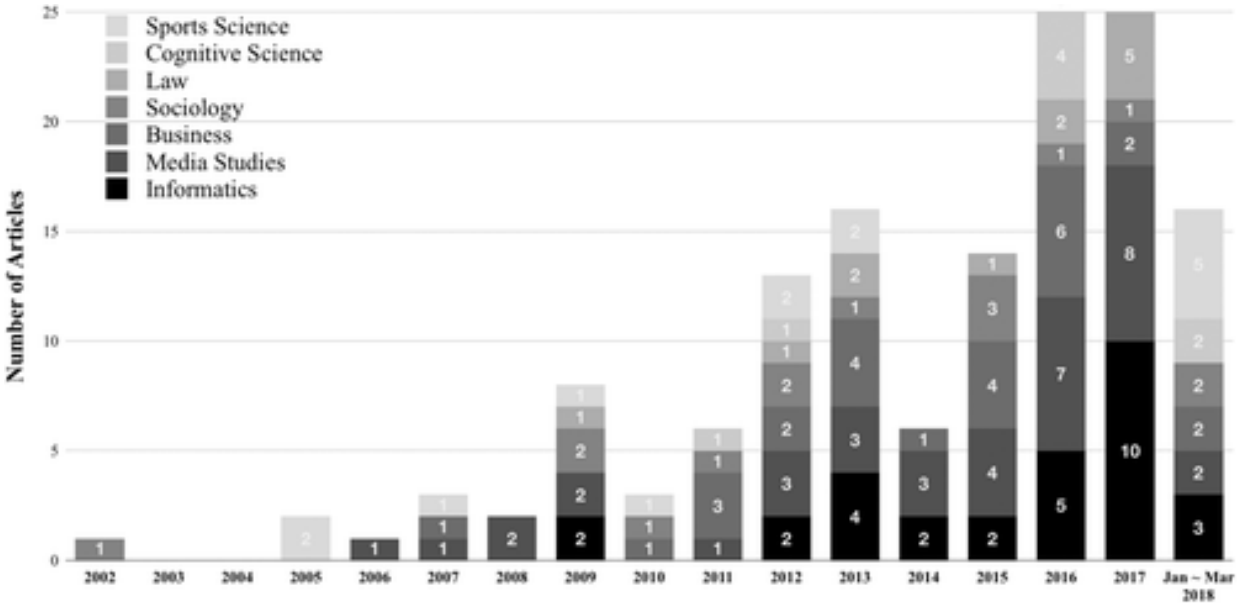
Definitions are seen to be contested, with "varying degrees of emphasis on physicality, computer mediation, institutional infrastructure, and spectatorship" (Reitman et al., 2019:40). This pursuit of a more unified definition is also argued to be important, and a "nontrivial debate that underlies scholars' framing of their research" (Reitman et al., 2019:40). The authors illustrate how the definition of esports can impact this framing:

> “If the definition of esports accounts for the entire ecosystem, studies focusing only on gameplay need not concern themselves with inconsequential factors, like how Twitch chat reacted to a play. They must, however, acknowledge the context in which play is taking place” (Reitman et al., 2019:43).

The rapid growth of esports research as emphasised by Reitman et al. (2019) is seen in Figure 2.1. Their research was conducted based on literature up to March 2018, however, and as the research area evolves quickly, the conclusions drawn are quickly outdated, hence the need for further literature review on esports. This is paramount to assess whether the current esports literature provides the bases for research specific to esports events or whether there is a need to also rely on literature outside esports (e.g., on sports events).

Figure 2.1

Growth of esports research and associated topic areas



Source: Reitman et al. (2019:34)

2.1.2 Literature review process

The process which is followed in the present study for the review of the literature begins with Boote and Beile (2005) who suggest that literature can be classified according to five characteristics: coverage, synthesis, methodology, significance and rhetoric. Each of these characteristics are outlined below in table 2.1.

Table 2.1

Boote and Beile (2005)'s five characteristics of literature

Category	Criterion	1	2	3	4
1. Coverage	A. Justified criteria for inclusion and exclusion from review.	Did not discuss the criteria inclusion or exclusion	Discussed the literature included and excluded	Justified inclusion and exclusion of literature	
2. Synthesis	B. Distinguished what has been done in the field from what needs to be done.	Did not distinguish what has and has not been done	Discussed what has and has not been done	Critically examined the state of the field	
	C. Placed the topic or problem in the broader scholarly literature	Topic not placed in broader scholarly literature	Some discussion of broader scholarly literature	Topic clearly situated in broader scholarly literature	
	D. Placed the research in the historical context of the field.	History of topic not discussed	Some mention of history of topic	Critically examined history of topic	
	E. Acquired and enhanced the subject vocabulary.	Key vocabulary not discussed	Key vocabulary defined	Discussed and resolved ambiguities in definitions	
	F. Articulated important variables and phenomena relevant to the topic.	Key variables and phenomena not discussed	Reviewed relationships among key variables and phenomena	Noted ambiguities in literature and proposed new relationships	
	G. Synthesized and gained a new perspective on the literature.	Accepted literature at face value	Some critique of literature	Offered new perspective	
3. Methodology	H. Identified the main methodologies and research techniques that have been used in the field, and their advantages and disadvantages.	Research methods not discussed	Some discussion of research methods used to produce claims	Critiqued research methods	Introduced new methods to address problems with predominant methods
	I. Related ideas and theories in the field to research methodologies.	Research methods not discussed	Some discussion of appropriateness of research methods to warrant claims	Critiqued appropriateness of research methods to warrant claims	
4. Significance	J. Rationalized the practical significance of the research problem.	Practical significance of research not discussed	Practical significance discussed	Critiqued practical significance of research	
	K. Rationalized the scholarly significance of the research problem.	Scholarly significance of research not discussed	Scholarly significance discussed	Critiqued scholarly significance of research	
5. Rhetoric	L. Was written with a coherent, clear structure that supported the review.	Poorly conceptualized, haphazard	Some coherent structure	Well developed, coherent	

Source: Boote and Beile (2005:8)

An example of how this framework was utilised in the present thesis can be seen in the analysis undertaken of Cranmer et al. (2021). Going through the criteria in order, Cranmer's work is highly relevant, so classified as a 3. Among the synthesis criteria, there is an extensive review of the history of the topic, but minimal discussion of vocabulary. This could be argued as inconsequential, however. Regarding the methodology, there is some discussion of the research method used to produce claims,

and regarding the significance, there is some critique of the scholarly significance without much depth, and finally the rhetoric is developed well, if somewhat too extensive. Furthermore, an effective method to undertake a literature review is to consider Cooper's (1998) stages of conducting a literature review:

1. Problem formulation
2. Data collection
3. Data evaluation
4. Analysis and interpretation
5. Public presentation

This review will begin after the problem formulation stage (identified at the end of the 'Reitman et al. (2019) as a starting point' section above, i.e., does the current state of the esports literature provide the bases for research specific to esports events?), considering everything subsequent to this. These are similar to the stages which would be followed when undertaking primary research but can be used to develop a robust literature review. As explained by Randolph (2009:4), "with a few modifications, what one knows about conducting primary research applies to conducting secondary research" and can be applied to literature reviews. Specifically, there are individual components to be undertaken, namely "(a) a rationale for conducting the review; (b)

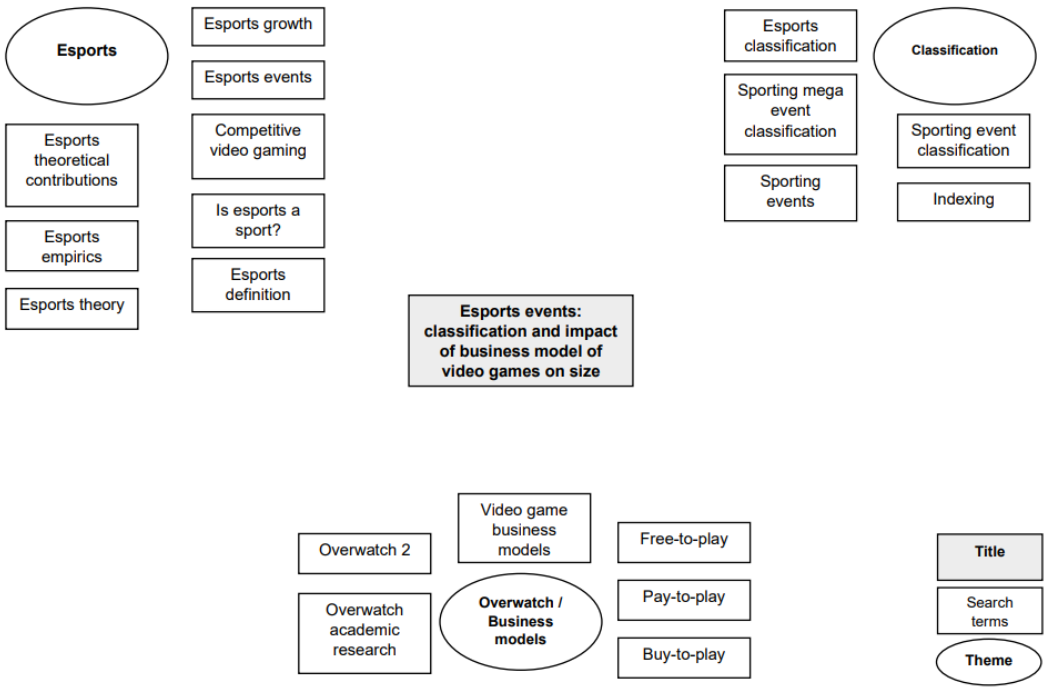
research questions or hypotheses that guide the research; (c) an explicit plan for collecting data, including how units will be chosen; (d) an explicit plan for analysing data; and (e) a plan for presenting data" (Randolph, 2009:34). This is the process to be followed to set-up the process of reviewing the literature.

Searching for suitable literature is an important and decisive step in the literature review process. Determining suitable search terms is the first stage in this process and will decide the approach used going forward. Aromataris and Riitano (2014) outline a number of steps for developing a search strategy in research and provide practical guidance for developing searches of the literature. For example, the key concepts need to be identified and prioritised, before search terms are expanded and linked together. It is suggested that initial, simple searches are conducted at this stage at a basic level to explore synonyms, alternate spelling, acronyms, abbreviations, layman's terms, and alternative ordering. Venn (2022) suggests at this stage, entry terms, related terms, and narrower or wider terms should also be explored. Other stages in the process outlined by Aromataris and Riitano (2014) include developing search fields in order to ensure suitable databases are explored. It is also suggested that search tools like adjusting the ending of words (*esports* could be explored as *esport*), and incorporating quotation marks for specific phrases should be included (*"esports classification"* instead of *esports classification*). Finally, it is suggested that Boolean operators should be used (OR, AND, NOT), and pilot searches should be explored in advance of a final search being

undertaken. An exploration of the search terms used in the present literature review is outlined in figure 2.2.

Figure 2.2

Search terms diagram

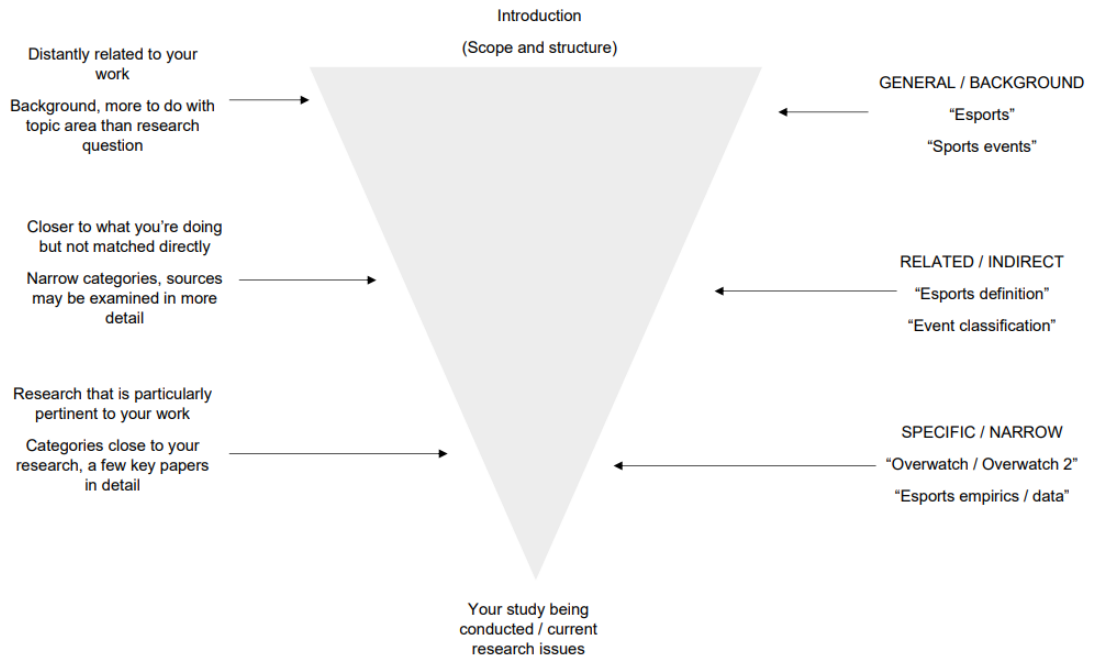


The University of Hull (n.d.) outlines a number of different processes for undertaking a literature review which could be explored. A ‘Jigsaw’ approach suggests providing weight to all topics equally, but with links where appropriate. This approach is

disregarded as some of the concepts explored are disparate and the links would be difficult to determine, for example the exploration of literature connected to Overwatch sits separate to other areas. Another option is to explore the literature chronologically, where literature is explored over time, “grouping and discussing your sources in order of publication, highlighting the changes in research in the field and your specific topic over time” (University of Hull, n.d,). Finally, the ‘funnel approach’ is suggested, which works “broad to narrow, starting by scoping background literature related to your general topic area rather than precise research question” (University of Hull, n.d,). After this, there is a need to move to literature closer to the area being studied “but not matched directly and dealing with these sources in more detail”, before finally critical analysis of research close to the research question and exploration of seminal papers around the research question are undertaken. The funnel approach is applied in the present literature review, as seen in figure 2.3.

Figure 2.3

Funnel approach diagram



Source: Influenced by University of Hull (n.d,)

Presenting literature is also guided by PRISMA (n.d.) which is a framework designed to try and help authors of systematic and literature reviews. The statement and motivation of PRISMA is fairly straightforward:

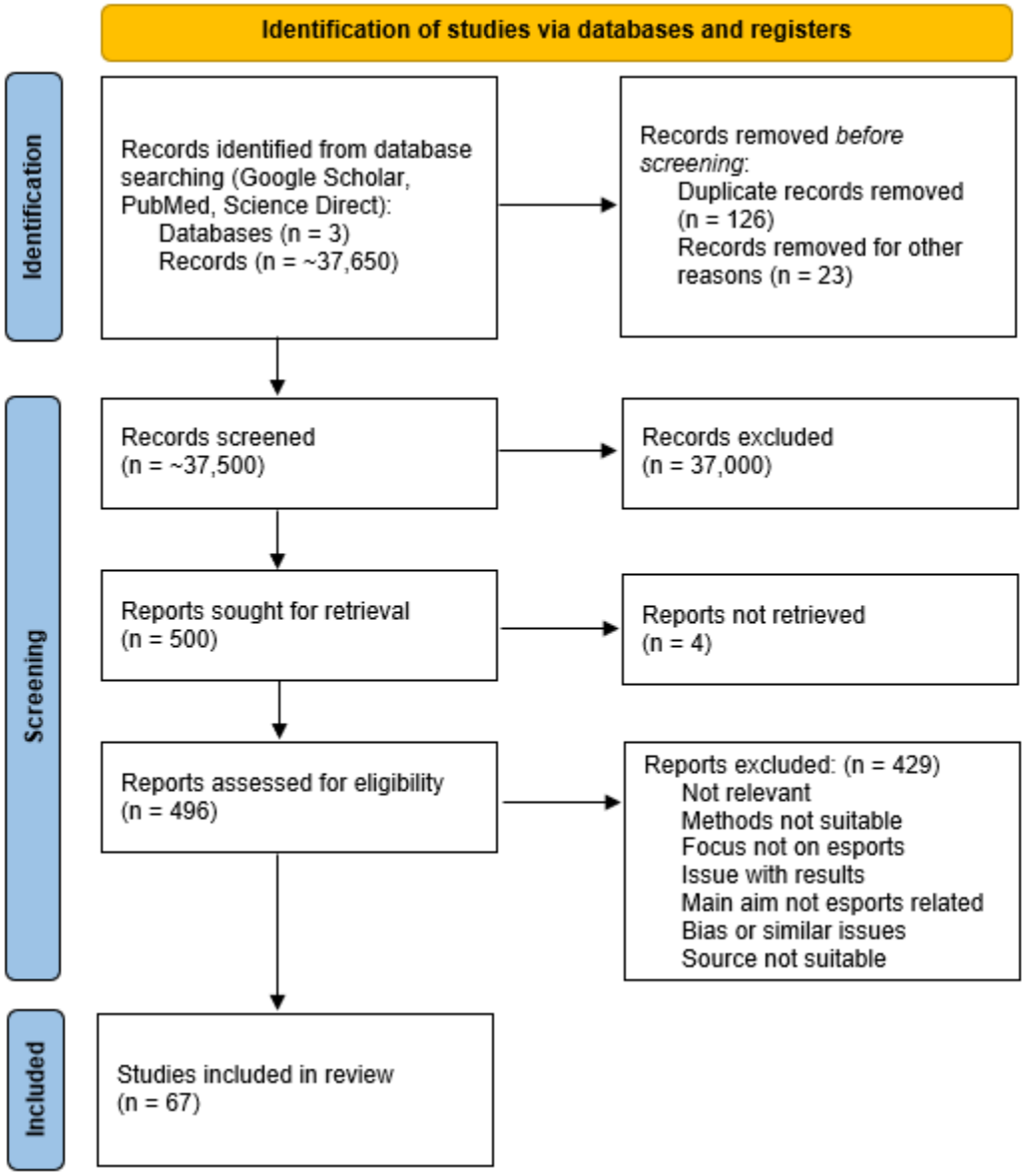
> "To ensure a systematic review is valuable to users, authors should prepare a transparent, complete, and accurate account of why the review was done, what they did (such as how studies were identified and selected) and what they found (such as characteristics of contributing studies and results of meta-analyses)" (Page et al., 2021:1).

It is argued that “up-to-date reporting guidance facilitates authors achieving this” (Page et al., 2021:1). One of the models proposed by PRISMA is the PRISMA flow diagram. This form of diagram, it is argued, helps “facilitate rapid comprehension of basic review methodology”, but also with communication and transparency as a form of “interactive site map” for reviews (Page et al.:2021:2). As an extension, the timeframe at which each stage was started can be provided. These stages were also naturally revisited over time as the thesis evolved and more recent references relevant to the PhD thesis were published. The PRISMA flow diagram produced to map this review is seen in figure 2.4[2].

[2] For the sake of clarity, Figure 2.4 only includes the search for academic sources. However, it must be noted that non-academic sources were also searched through Google, explaining the subsections on non-academic definitions of esports and perspectives later in this chapter and chapter 3.

Figure 2.4

PRISMA flow diagram



Source: Inspired by PRISMA (n.d.)

2.2 Definitions and characterisations of esports

2.2.1 Non-academic definitions of esports

One of the most basic but important outlines of esports comes from a non-academic source, written by industry professional Paul Chaloner, who explains:

> “Esports, you see, is a catch-all word, an umbrella term. Exactly like sport is. Just as you've got football, basketball, tennis, F1 and other sports all vying for sports fans' attention every day of the year, there are numerous games with a following big enough to attract a tournament scene year round, as well as professional teams with salaries. And not unlike how you can break down sporting disciplines into categories like ball sports, motorsports, track and field and so on, these games break down into several distinct genres” (Chaloner, 2020).

Among the genres then outlined are real-time strategy games, multiplayer online battle arena games, first-person shooter games, sports simulations, card games and fighting games (Chaloner, 2020). This is not intended as an exhaustive list, but as an insight into the biggest esports genres at the time. Another important distinction made by Chaloner (2020) is the specific distinction of the spelling of ‘esports’. While this may seem unimportant, this influences what will be presented throughout this thesis.

Chaloner (2020) gives a list of examples taken from interactions with firms engaged with esports, which he argues are not spelled correctly: *esports, e-Sports, E Gaming, Esports, Athletics, V-gaming, iSports.* This kind of discussion might seem trivial and inconsequential, but Chaloner (2020) makes the point that this is important because it helps maintain a level of professionalism and sincerity within the industry, and classifies esports as professional and linked, but distinct from sports, with its own "intricate tactics, strategies, and storylines", located "at the intersection between competition and technology" (Chaloner, 2020:22). The author also argues that there are similar moments of drama and emotion within esports and sports, and this comparison is justified, but that esports should be viewed as its own grown up, nuanced and complicated sub-category.

Other non-academic literature sources provide basic definitions for esports. The British Esports Association (2016) explains that esports "is a term used to describe competitive video gaming", with the emphasis being on the competitive, human-vs-human components of esports alongside a spectator element, similarly to traditional sports. Examples given include Call of Duty, Overwatch and Counter-Strike, where "players pit against each other in various modes to complete an objective". This definition is extended to explain that esports should be thought of as "competitive video gaming where skill and professionalism is celebrated" (British Esports Association, 2016). A comparison is drawn to a professional footballer or athlete, in that they would know the game they compete in inside out. This definition is echoed by a journalistic article by

Willingham (2018), explaining that “esports describes the world of competitive, organised video gaming”, where “competitors from different leagues or teams face off in the same games that are popular with at-home gamers”. Willingham relays the same important esports as the British Esports Association, but adds Madden NFL, a sports simulation game which is an important genre within esports as it is the area where it is tied most closely to traditional sports, with numerous examples of where football (soccer) clubs have hired esports professionals to represent them.

Discover Esports (n.d.) offers a similar definition, while also expanding it, starting with: “Esports, electronics sports, competitive gaming, professional gaming, or any variation of those words is a form of competition with the medium being video games”. This definition is expanded to specify that “some games range from 1 player versus another player, up to 8 versus 8, and everything in between depending on the game” (Discover Esports, n.d.). One aspect of esports many definitions ignore or miss out on is the event aspect of esports, which this thesis will consider. Discover Esports (n.d.) includes aspects of esports events in their explanation of esports, explaining “the majority of the competitions take place online, in what is called a ‘multiplayer’ environment. Video game tournaments that take place in-person are usually called “Offline” tournaments, or historically called “LAN (Local Area Network)” tournaments”. Another unique aspect is stated by Discover Esports (n.d.), with the point being made that offline tournaments include a standardised level of equipment between competitors, which implies that online tournaments include differentials between competitors.

These non-academic sources are well established and explained, however, each has a vested interest in esports as a whole, leading to potential bias. They are more journalistic in nature, lacking technical detail and debate around their provided definitions. These non-academic sources do however provide ample opportunity for comparison to more academic sources, which have similar but more technical definitions.

2.2.2 Academic definitions and characterisations of esports

The research area associated with esports, as outlined previously, is relatively junior. The result of this is that a significant amount of the literature is dedicated towards looking at the empirical process associated with research of esports. Given the growing interest determining the academic processes around the field, academics have focused on discussions around the research field.

2.2.2.1 Early definition by Wagner (2006) as a starting point

In an early contribution, Wagner (2006) discusses how scientifically relevant esports could be upon other areas of research. By extension the paper tries to “lay a foundation for a proper academic treatment of esports” (Wagner, 2006:2). This includes providing their own definition suitable for academic studies, discussing a short overview of the history of the topic, and given the early publication date also tackling early approaches to the topic, with suggested future fields that could make use of esports proposed as

“decision making or management training” (Wagner, 2006:2). Wagner’s research, being both early and influential on the field, can be seen as seminal and helps lay out a foundation for consideration in this thesis.

The author explains that the study of computer games in general is becoming more accepted in academia, but most competitive gaming in western culture is focused on first-person shooters, meaning there is an associated debate about game ethics (Wagner, 2006). This is something which has adjusted since the publication, potentially due to the growth of less violent videogames. Wagner then frames his later arguments by going through a history of esports. The earliest source that uses the term “esports” is a press release associated to “the launch of the Online Gamers Association” (Wagner, 2006:1). Around the same time was an attempt by the ‘UK Professional Computer Gaming Championship’ to have esports recognised as a sport by the English Sports Council. This is also a significant area of discussion within academia; the debate whether esports should be identified as a sport. This will be examined in further depth in this review.

Wagner then goes into further depth considering the emergence of esports, and its influence as a cultural phenomenon. The rise of competitive gaming is identified as being associated with the release of first-person shooting games namely Doom in 1993 and Quake in 1996. Other significant releases suggested by Wagner include StarCraft (1998), Lineage (1998) and Counter-Strike (1999). Wagner argues that Counter-Strike overtook Quake and remained the “central element” in Western esports events. Despite this research now being 15 years old, this still holds some truth. With the introduction of

players grouping up in ‘clans’, came a new, higher level of organisation in video games. As Wagner explains, “By 1997 several professional and semi-professional online gaming leagues had formed, most noticeably the still influential “Cyberathlete Professional League” whose business concept was modelled after the major professional sports leagues in the United States” (Wagner, 2006:1).

Much research around esports, particularly in English language journals focuses on Western esports culture. As Wagner (2006:2) explains, “In the mid-nineties Korean policy-makers had deregulated advanced telecom applications causing a rapid growth of the Korean broadband infrastructure”. This change allowed for the rise in Eastern esports culture, which preferred Massively Multi-user Online Role Playing Games (MMORPGs) and Real Time Strategy (RTS) over First Person Shooter (FPS) games more popular in the West. In his brief history of esports to date, Wagner (2006) concludes by drawing a parallel to traditional sports, where different cultures prefer different disciplines, much like Eastern and Western esports ecosystems preferring different esports.

Wagner (2006:3) then turns to exploring the definition of esports, stating in no uncertain terms: “The academic study of competitive gaming requires a scientific definition of what we mean when we talk about “esports””. He then argues that despite this there is not a single definition, and the accepted premise of esports being equivalent to “professional gaming” is too narrow. Wagner (2006) argues that esports should be embraced as a sport regardless, based on a definition of sport outlined by Tiedemann (2004:3) who defines sport as:

> “A cultural field of activity in which human beings voluntarily go into a relation to other people with the conscious intention to develop their abilities and accomplishments - particularly in the area of skilled motion - and to compare themselves with these other people according to rules put self or adopted without damaging them or themselves deliberately”.

Wagner (2006:3) then suggests rephrasing this definition, removing the reference to skilled motion as this does not strengthen the definition and the section about achieving recognition for success, resulting in an adjusted definition:

> “"Sport" is a cultural field of activity in which people voluntarily engage with other people with the conscious intention to develop and train abilities of cultural importance and to compare themselves with these other people in these abilities according to generally accepted rules and without deliberately harming anybody.”

This raises an important question regarding esports literature; when a piece of literature is older, whether or not it is still applicable. In this case, it would almost certainly be argued that the two issues Wagner raises in his definition are now strongly associated with esports, namely that esports at the highest level is now acknowledged to require a high degree of skilled motion or mechanical skill, and there is a large amount of recognition associated with succeeding in esports at a high level. Wagner (2006:3) does acknowledge this in part, explaining that “It has to be expected that the activities we will accept as sport disciplines will change as our value system change, for example due to technological progress. During recent years we have seen a rapid development and

cultural integration of information and communication technology". This could be seen as addressing a change in cultural attitudes towards esports, particularly when considering the competition aspect. Wagner (2006:3) clarifies this further:

> "It is therefore expected that anybody participating in this culture - in particular individuals with high achievement motivation - will feel the need to demonstrate this mastery by succeeding in competition". This fits within a modern understanding of esports and high-level competition.

Wagner (2006:4) finally defines esports as "an area of sport activities in which people develop and train mental or physical abilities in the use of information and communication technologies", determining that this can be applied to individual and team-based events. This is the broad definition which will be adopted by this thesis, while also adding more specific elements based on more recent literature. For example, in a non-academic outlet, Warr (2016) specifies in a refinement of Wagner (2006)'s definition the video gaming element of esports, while arguing that amateur events should be considered esports.

Wagner (2006) concludes by conceptualising esports as a scientific discipline to be considered, separately from defining it as a sport or including consideration of esports in any other discipline. The example is given of looking at communication of esports players within Counter-Strike. This is a consideration not using concepts from outside of esports. This is then considered looking at teamwork and what can be learned from esports. Wagner also considers game theory in an esports context, positing a team-

based situation where a team has a choice to stick together, split up, play different roles, complete different actions etc, and how adding different degrees of complexity, such as freedom, how results change. Overall, Wagner (2006) provides an important early contribution to the definition of esports. However, it is broad and now quite dated, meaning there is a need to consider more recent research providing further characteristics of esports. This does not mean that Wagner (2006)'s definition should be totally disregarded. For example, some elements provided by Reitman et al. (2019) cited at the start of this chapter can be seen as a follow-on from Wagner (2006). From a sports science perspective, Reitman et al. (2019) show that most research on esports is concerned with setting agendas relating to traditional sports and evaluating the potential for esports to be considered sports, namely "how the immersion and interactivity of computer games can emulate and require skilled physicality" (Reitman et al., 2019:35). It could be argued that this is oversimplifying esports by limiting its definition, curtailing the research area and limiting it solely within the overarching traditional sports background. However, Reitman et al. (2019) also identify contested definitions as a contentious issue, with some definitions focusing on the competitive aspects of the area, while others explore how technology facilitates competition. Reitman et al. (2019) argue that the most precise definition is given by Taylor (2015:116): "E-sports involves the enactment of video games as spectator-driven sport, carried out through promotional activities; broadcasting infrastructures; the socioeconomic organization of teams, tournaments, and leagues; and the embodied performances of players themselves". Nevertheless, it can be argued that this definition is too strongly focused

on the competitive aspects of esports rather than its technological dimension in relation to its videogames and them being business/industry-driven.

2.2.2.2 Scholz (2019, 2020)'s more business/industry-driven definition

Wagner (2006)'s idea that esports should be defined as sport and is based on information and communication technologies (or, more succinctly, that esports are facilitated by computers/consoles) is mirrored by the work of Scholz (2019). As part of an in-depth consideration of esports, Scholz (2019:3) states that "esports is not comparable with sports like American or European football, as esports is more an umbrella term for any video game that can be played competitively". However, Scholz (2019) cites the work of Arnaud (2010), reasoning that if esports is not a sport, it has the "taste" of one. Scholz (2019) outlines five reasons for people and companies to get involved in esports, and this provides some insight into the contribution this thesis can have. (1) Esports reaches a digital, international audience which is young compared to other sports. (2) This industry is still emerging, with new companies and structures forming. (3) Scholz (2019:5) then makes a point which diverges from the earlier definition outlined by Wagner (2006), arguing that one of the reasons and motivations for those investing into esports is that there is a significant difference from traditional sports: "Contrary to traditional sports, esports is industry-driven. It is necessary to clarify that games like American and European football are at the professional level highly industry-driven and even a federation like FIFA follows the market rules, but the sports [sic] football is not industry-driven". (4) This is extended to outline how football was established by players defining rules over time, while esports relies on a publisher

creating and operating a videogame for an esport to be competed in. This point is a valid critique on other esports definitions or arguments that state that esports should be classified as a sport. (5) The final motivation Scholz (2019) gives for involvement in esports is the lack of centralised governing body. He argues that this leads to more freedom for innovation and the selection of structures which have worked elsewhere. It could be argued that this lends viability to definitions of esports that argue it is a sport, with most sports having a similar evolution, where unofficial self-governance takes place, then a more formal system grows when the professionalism increases (Scholz, 2019). The introduction of larger entities in esports, such as ESL for the hosting of events or Twitch for streaming esports could be the start of this formalisation process.

Scholz (2019) goes further in his definition of esports, explaining that there are characteristics and descriptors which help to explain the industry. One aspect is that esports is an umbrella term describing any game that has competitive elements, in a similar way to how sports can describe any number of physical competitive activities (Scholz, 2019). There are communities for individual esports, location-specific ideas, and a range of stakeholders. The esports industry, Scholz (2019) argues, is volatile, and there is instability due to videogames having limited lifespans. Every few years something will shift the industry.

In a more recent contribution, Scholz (2020) continues exploring esports and its definition and characteristics in an editorial, explaining again that esports is focused on a digitalised and young audience, enabled by digitalisation and globalisation. Scholz (2020) makes a convincing argument around esports and its position as a sport,

whether it is or not, and how this discussion is, for the first time, fuelling a conversation around the definition of a sport, and what role it should have. Scholz (2020) relays Wagner (2006)'s early definition, explaining that "esports is a phenomenon that has become a fundamental element in today's digital youth culture" (Wagner, 2006:437), but adding the caveat that esports is no longer strictly related to youth culture. Scholz (2020:4) argues that esports is a phenomenon "rooted in sports, media, entertainment, and culture, but emerged in a digitized environment". These additions help to frame the more basic ideas outlined in Wagner (2006)'s early exploration of esports. Scholz (2020) outlines how despite the industry still evolving, at the core are business models aiming to monetise either players or the audience.

2.2.2.3 Esports as "an institutionalized game"? (Abanazir, 2019; Summerley, 2020)

Summerley (2020) covers an important area in considering the institutionalisation of esports, comparing it to sports. The author makes the point that Suits (1988:61) has defined sports as "simply athletic games institutionalised in certain ways", and Guttmann (1996:158) notes a key criterion in the formation of "modern sports" is that "A bureaucratic organisation emerges to administer regularly occurring tournaments and continually to adjust the rules and regulations". Institutionalisation is explored by Morrow (1992:239): "The institutionalisation of sporting behaviour (or any human behaviour) channels, directs, shapes, funnels behaviour in a certain direction and no other. In essence, institutionalisation is a pickling process that seeks to preserve a certain set of social practices". This in itself is important within esports as a growing phenomenon,

with a set of social practices that will flow between videogames being competed by and potentially affecting significant amounts of potential competitors.

Abanazir (2019) details a similar area to Summerley (2020), considering institutionalisation of esports, and similarly to Summerley (2020), Abanazir (2019) often compares to sport. Abanazir (2019) structures his (earlier) paper similarly to Summerley (2020), outlining a history of esports, the context in which esports operates and the current systems in place, explaining that “video game publishers themselves have taken the mantle of organising and promoting their own e-sports competitions based on the video games they develop” (Abanazir, 2019:118). An important point made by Abanazir (2019) that is not addressed by Summerley (2020) is the level of ambiguity around institutionalisation, sport and esports, that the required level of institutionalisation for a game to become a sport is not easy to judge, and that esports and sports differ significantly. This is noteworthy because there are a number of efforts to frame esports as a sport due to the sophistication of the networks it has evolved, but as Abanazir (2019) points out, these efforts are often difficult to judge, particularly when sports institutions and esports institutions differ significantly. These two papers and their consideration of a similar area can facilitate a comparison of the two, conducted here.

The analysis undertaken by Summerley (2020) begins with the point that the growth of esports and its potential inclusion into the definition of sports means that the definition of sport is called into question. Summerley (2020:52) explains that institutionalisation occurs when “a game’s community universalizes a ruleset that all players must abide by for competition, promotes an institutional philosophy, and propagates that game to grow

its scene". These three aspects are then analysed in depth, before assessing in the second half of the paper the similarities and differences between traditional and esports institutions. Institutionalisation and regulation are explored, with the idea being that when a sport reaches a certain size, regulations form, and institutionalisation begins. Summerley (2020:53) defines universalization in his own words as "the codification of the rules of a game, universally adopted by all competitors under an institution. Informally, this begins prior to institutionalisation through the development of communally agreed rules about sporting behaviour first created by the community"; these codes are then formalised at formal, organised tournaments. Comparisons are drawn between the foundation of The FA (English Football Association) and the rules determined for "Super Smash Bros. Melee", a type of fighting game, where rules were determined via private discussion boards, then disseminated to the community and adopted by official tournaments via the 'soft authority'; the discussion boards hold. This situation is compared to the formation of the FA ruleset in the 19th century, with the Sheffield FA adopting the National FA's ruleset. When compared to esports, Harper (2010:193) frames EVO (Evolution Championship Series, an institution that manages fighting games) founder Seth Killian's term, "a 'social collective' view". As noted by Summerley (2020:55), this is "to describe how communities codify rulesets through emergent play which are subsequently refined and universalized by institutions." An exception to this is given with Overwatch, the focus of a later chapter in this thesis. Overwatch was seen to have rapid institutionalisation via its Overwatch League, with a significant league system in place before a third-party ruleset could develop.

Abanazir (2019) makes a point which opposes what Summerley (2020) outlines. Similar to Summerley (2020), Abanazir (2019) cites Suits (1988), who in turn emphasises the requirement of sports to be institutionalised and stable, similar to Summerley (2020)'s idea that sport needs to have a universalised ruleset in order to become institutionalised. However, Abanazir (2019) then relays that Meier (1988) disagrees with this idea, stating that while Suits (1988) is not the only author to emphasise the importance of institutionalisation and stability, this is not correct. Institutions, regulations, customs, and traditions are secondary, and are not a necessary component of the sport, and ideas which promote these as essential characteristics of sport should be rejected (Abanazir, 2019:118).

Summerley (2020) also considers institutional philosophy, with the explanation given being that "the institution also takes on other responsibilities including the establishment of a dominant philosophy that attempts to underpin the character of a sport" (Summerley, 2020:55). This concept is explored but not explained or justified extensively. The idea of exploring the philosophy of institutions associated with esports is valid and makes sense, but not tackled besides the examination of a small outline of the EVO series and what it stands for, and an explanation of the values of the IOC without a refined link with esports being made.

Propagation (or the promotion of an idea) is mulled upon in the context of the spreading of rules around sport. As Summerley (2020:57) explains:

> ““Ludic diffusion,” a term employed by Guttmann (1996), refers to the process of a game spreading across geographical areas. By propagating their rulesets and centralizing legitimate competition institutions take on the responsibility of propagation which can be defined as intentional ludic diffusion. If a sport is to propagate then it is worth considering how it can be made to generate income and appeal to the nonplayer, and so commercialization and entertainment can become a concern for institutions over time”.

This idea of how the rules around a sport can be dissipated is a valid area for discussion. The considerations undertaken by Summerley (2020) around how the rules of football were originally transmitted across England are well founded and explained in depth, but again lack a clear link to esports. Esports, as explained by Chaloner (2020:15), has a number of distinct sub-categories: “real-time strategy games, multiplayer online battle arena games, first-person shooter games, sports simulations, card games and fighting games”; this is not intended as an exhaustive list either, with many other esports existing. How could a single set of rules, like in football, be diffused across pointedly different types of esports, e.g., between FIFA (football simulation game) and Football Manager (football management simulation game)?

Abanazir (2019) also considers the dispersion of rules, contending that in terms of rule management, esports and sports are similar. Abanazir (2019) outlines the idea of instantiation, relaying the work of Schneider (2001), who contends that a game has two different meanings, which are applied to esports to be the game being played at the time, and the video game itself. The relationship between sport and esports for

instantiation is explained by Abanazir (2019:121): “without a set of rules as a basis, there can be no competition between athletes. In the case of e-sports, the video game too consists of rules, i.e. the code, allowing certain moves but limiting others”. A clear similarity is then outlined by Abanazir (2019) in the generation of rules, outlining that in sport there is a rule-making organisation which lays out how a game should be played, giving the example of FIBA (Fédération Internationale de Basketball Association) for basketball at an international level, and the NBA (National Basketball Association) at a national level, with the NBA outlining its own version of the international rules. For esports, the rules of the game and any tournaments are generated by the developer, and often the developer manages events and tournaments also.

Summerley (2020:57) tries to address the question of esports rule dispersion somewhat, explaining that “Esports institutions are quick to take up concerns of commercialization and spectatorship for the sake of propagation”. This idea of the spreading of rules of an esport is valid and important for exploration of esports going forward, but in this case Summerley (2020) does not develop an argument beyond consideration of the EVO series he explored previously. One constructive argument made is around what will likely be the standard evolution of new esports, with the Overwatch League (OWL) explored: “The institutionalisation of the OWL in 2017 (announced in 2016—the same year Overwatch was launched) is a case where a developer has managed almost every aspect of a game’s journey into a sport including rapid commercialization and professionalisation” (Summerley, 2020:58). This idea of a developer managing the evolution of an esport before the community has much chance

to define it themselves is something seen again recently in the launch of Valorant, with the game being designed and developed with a competitive gaming, esport-focus from the start.

Comparative analysis is then undertaken by Summerley (2020) regarding sports and esports, specifically analysing capital, identity and institution, intellectual property and media rights, ludic diffusion and longevity. Capital is explained as one area where the formation of esports and the formation of sports are different. Esports are seen to have had commercial and corporate attention from an early stage, versus regular sport which evolved via a more grassroots approach. An example is given of the previously referenced Sheffield FA accumulating capital via membership fees rather than commercial sponsorship (Summerley, 2020). This point is somewhat moot however, with the additional consideration of the time frame of the early evolution of football, which was the 19th century. The world being less commercialised generally explains the reason for sport, and football more specifically, growing as it did, and esports growing in the heavily-commercial way it did reflects the modern environment of its own growth. Contrast is drawn between the EVO series referenced previously and other esports institutions, with EVO being seen as much closer to the style of traditional sport given the grassroots style adopted and the lack of commercial sponsorship.

A well-constructed argument is made in explaining that esports has developed in an environment where sports institutions already exist: “Part of the historical context that E-sports developed in also includes precedent of centuries of institutionalized traditional sports that E-sports institutions aspire to as a template” (Summerley, 2020:59). This is a

key consideration, with the structure and environment esports operate in likely being heavily influenced by the structure of sports institutions. This can be seen in examples mentioned previously of Overwatch and their league system, and other Activision-Blizzard games like Call of Duty which has a similar league system associated with different cities. The point made could be extended that if esports grew organically, in a vacuum away from sports institutions we would see a system which reflects the nature of esports. As an extension of this, the interaction between esports and the types of partner organisations is also defined as “emerging”, as opposed to “traditional sports which are heavily formalized in their relationships with other institutions through sponsorship, merchandise, and media rights” (Summerley, 2020:59).

Abanazir (2019:125) makes an important and influential point regarding the future of esports institutions and the potential for a larger, encompassing umbrella organisation. If the number of esports-relevant games is taken into account, creating an organisation to determine the production and tournaments in a cohesive manner is “almost impossible”, with Abanazir (2019) going as far as stating that this could result in any organisation falling foul of competition laws as it would hold monopolistic power.

Summerley (2020) considers some elements of identity around esports, with some concepts being explored on how esports is relatively open compared to sports, and how both in-game characters and competitors are diverse. This is not really developed beyond a superficial description of this, with some mention of the Overwatch League being spread across the world but no analysis beyond this. Similarly, “Intellectual property and media rights” are considered, with the most significant point being made

that esports are different to traditional sports in that there are three “authors” related to esports, namely “the developer, the institution, and the community” while in traditional sports, “the developer lacks a true analogue”, in that the creators of a sport are not seen as important (Summerley, 2020:62). Similarly, “Ludic diffusion” is explored without much being contributed to theory, with some widely held beliefs being relayed. It is argued that esports grew rapidly due to the rise of the internet but are still regionally grouped due to latency restrictions.

Concluding remarks by Summerley (2020) include numerous important observations, considering the past of esports and the structure adopted, and the future of esports:

> “The community develops informal game rules that are later codified and universalized by a game’s institution(s). Sports institutions of both types can be seen establishing a moral philosophy that guides the character of the sport and its community as part of the process of institutionalization. Both types also aim to propagate their game through promotional events, dispersal of their universal rulesets and institutional philosophy” (Summerley, 2020:65).

Summerley (2020:66) also argues that lessons should be learned from sports: “Given the precarious nature of e-sports, it might also be worth examining lessons to be learnt from sports institutions that failed”.

Abanazir (2019) also considers the future of esports, contending that esports have developed over the last 25 years, whereas sport has developed over centuries, and that institutionalisation of modern sport occurred over a long period of time and through

phases. The same example is used by Summerley (2020) of when the ‘Sheffield’ ruleset of football was abandoned. This shift in rules and their codification of the rules took 20 years to be finalised formally, and another eight years to be used officially (Abanazir, 2019:126). The author outlines how multiple efforts to produce a high tier esports series or tournament have failed, citing the Championship Gaming Series, and the Cyberathlete Professional League as examples. Abanazir (2019:118) concludes by arguing that judgements on the current level of institutionalisation of esports are premature, and that “the institutionalisation of e-sports may never be in line with the models provided by modern sport”. Finally, Abanazir (2019) makes a clear summarisation, that given esports is in its early days, a judgement on institutionalisation will have to wait.

Both Summerley (2020) and Abanazir (2019) consider institutionalisation from a similar perspective, comparing esports and sports and attempting to gauge where esports currently is. Summerley (2020) uses a more far-reaching approach, looking at identity, ludic diffusion, and the definition of sport, while Abanazir (2019) is more focused solely on institutionalisation itself. Both are somewhat inconclusive on the current state of institutionalisation of esports, but this is understandable given its relatively junior nature, particularly when compared to sport. Overall, the focus on institutionalisation adds to previous literature. However, this specific focus means a lack of diversity in the perspectives considered.

2.2.2.4 Towards a better understanding of esports through diverse perspectives (Freeman and Wohn, 2017)

Freeman and Wohn (2017:1601) consider how esports can be better understood in terms of their “nature, scope, and practices”. More specifically, the goal is to “explore diverse perspectives on what defines esports as a starting point for further research” (Freeman and Wohn, 2017:1601). This is undertaken in the specific context of the research being conducted at the conference where the paper is presented, and could be limited to the area in which the conference is specialising. However, it has implications outside this area of research into human factors in computing systems as the conclusions drawn are more generic. The process used looks at existing definitions of esports across different disciplines, before interviews with 26 esports players were conducted, qualitatively analysing their perceptions of esports, exploring definitions and theories for researchers, and highlighting new avenues of enquiry.

Beginning with an exploration around the definition of esports, Freeman and Wohn (2017) make the point that esports is situated at a unique intersection that combines recreation, interaction, task, competition, and collaboration. It is task-based with serious purposes (e.g., collaborate to complete tasks and win); and “it also happens in an intense fictional virtual environment that requires fast decision-making and response rate” (Freeman and Wohn, 2017:1602). The authors also emphasise the difficulty to clearly define the scope of esports. It is relayed that

> “many players are still amateur, practising skills at home, without pay, for fun and challenge. Yet one of the main challenges to study esports is the lack of understanding of its scope, connotation, boundary conditions, and context, which leads to the difficulties to perceive and approach esports as a distinct research topic in our field” (Freeman and Wohn, 2017:1602).

Questions are also asked over esports and the future of the research area, including “what are the theories that we can apply to study esports?”, “Does studying esports require a different approach than gaming studies?” and “what would be the most appropriate methodologies to study esports?” (Freeman and Wohn, 2017:1602). These identified questions could help outline the future of the research area, focusing research being conducted upon fruitful areas. The questions raised around approaches and methodologies are central to the research aims of this thesis and provide justification and motivation for why the research being conducted could be seen as important. The definitions analysed are taken from sports studies, management and marketing, and communication.

The three definitions included for analysis are “esports as a computer-mediated “sport””, “esports as competitive computer gaming”, and “esports as a spectatorship” (Freeman and Wohn, 2017:1602). Esports as a computer mediated sport is analysed first, with the idea being presented that “A common interpretation of esports is to view it in light of qualities of traditional sports” (Freeman and Wohn, 2017:1602). This can be reinterpreted as a discussion around whether esport should be defined as a real sport, with several different perspectives by other authors considered. For example, Lee and

Schoenstedt (2011) analysed the correlation between esports game patterns and traditional sports involvements, and Hamari and Sjöblom (2017) characterised esports as sports activities mediated by computing systems (e.g., online gaming) and sports content broadcasted and spread via computing systems (e.g., live streaming). Freeman and Wohn (2017:1603) then posit that despite these assertions in relation to esports, “people still question the legitimacy of defining esports in light of traditional sports, suggesting that whether esports “is a sport or not is to some extent irrelevant for the academic discussion of esports””, based on Wagner (2006:4).

The next definition explored is “esports as competitive computer gaming”, which could be argued as being the most suitable and realistic definition, given it is broad and wide ranging. The authors argue it “highlights the core gaming mechanism and play experience” (Freeman and Wohn, 2017:1603), relaying some past research undertaken in the area that reinforces this definition, explaining that “most of them described esports as competitive computer/online/video gaming”. The range of competitiveness is varied too, “such competitions can be held at various levels and scopes, ranging from a small local match using LAN (Local Area Networks) to national and international tournaments” (Freeman and Wohn, 2017:1603). To summarize, the authors explain that competition directly motivates players to win and improves their speed and accuracy; skills in gameplay are also closely associated with players’ fame, revenue, and reputation out of the game. This has a high level of face validity and makes sense in the wider context and background of esports research, but could be seen as too general. Could esports be seen as exclusively the professional level of competitive computer

gaming, for example? Further, should any definition be limited to exclusively 'computer'-based gaming, given the wider implications of mobile and console-based esports which are also substantial?

Finally, the above authors consider the sociocultural implications of esports, given the public, communication focused aspects of esports. The authors outline how esports has a grounding in being a social experience:

> "gaming activities have evolved from individual experiences in computer-generated environments to public experiences. The improvement of Internet bandwidth and the popularity of live streaming sites (e.g., Twitch, YouTube Gaming channel) further promote such a spectatorship and interactions between the spectator and the competitor (e.g., via computer-mediated communication such as Twitch web chat). As a result, both players and audiences have actively participated in and shaped the perception, understanding, and experience of gameplay" (Freeman and Wohn, 2017:1603).

Roles are also theorised on what the social structure of esports is. According to the authors, this structure corresponds to "competitors as performers or actors/actresses within the gaming world, while spectators as audience outside of the gaming world and judge the performance using their own sociocultural values" (Freeman and Wohn, 2017:1603). This is a unique and novel approach which not many other authors have considered, and given the evidence provided and the social aspects to all esports, these definitions should at least be considered.

The methodology employed by Freeman and Wohn (2017) is somewhat novel and heavily focused on qualitative methods, specifically grounded theory. They engaged with some experts in the field, identifying Facebook as an important meeting ground for communication and organisation, and League of Legends as a significant esport. Facebook was then utilised to request participants for in-depth interviews to understand esports players' perceptions of esports, in order to "better understand the complex nature, scope, and practices of esports". This was undertaken by first interviewing esports participants who were engaged with League of Legends, then narrative analysis was conducted, before the "the fundamental aspects of players' understandings of esports" were identified (Freeman and Wohn, 2017:1604).

There are a number of significant findings derived from this study. A specific definition of esports is drawn: "Many, including most of the amateur players, mentioned that though esports was not always a professional activity, it usually required a professional scene/atmosphere" (Freeman and Wohn, 2017:1604). This is contrary to many of the standard definition of esports, with most accepted definitions at least mentioning the professional aspects of esports, where this definition denies the professional component of esports. This definition is extended, again based on interviews with esports participants: "In addition, the aspect of competition is always associated with the aspect of goal-oriented activities. Thus, neither competition with no goal nor a goal with no competition was considered esports" (Freeman and Wohn, 2017:1604). This is closer to the normally accepted definition of esports, without this specific component having been expressed explicitly by other sources. Other definitions of esports acknowledge the

competitive aspects, but do not acknowledge the aspect of goal-focused competition or a competition-focused goal being the central tenet of esports.

Another key finding is that mechanical skill is seen as defining to esports, and this mechanical skill is linked to the physical aspect of esports. Mechanical skill is explained by one of the interviewees as “anything from a player’s physical ability like reaction time to heightened understanding of intricacies of the game” (Freeman and Wohn, 2017:1604). Players interviewed argued that there is high demand for physical skills. A parallel is drawn to physical sport in that “You have to take into consideration your success and fail rate on certain techniques while making your decisions within the game… which implies that through practice you can improve in your execution” (Freeman and Wohn, 2017:1604). The players interviewed argue that the level of skill is comparable between sports and esports, and the idea of esports is more serious than the more casual playing of videogames, and it is this continuous engagement in practice to improve that adds legitimacy to esports.

Spectatorship is seen as a crucial element of esports, as it has a defined social structure around events. Interviewees gave the examples of Twitch and YouTube as key to maintaining and supporting esports financially. This is also argued to be key to development of individual esports, with one interviewee relating that many esports “ended up going nowhere” because they failed to develop social infrastructure and social development (Freeman and Wohn, 2017:1605). The exact nature of these social elements are not defined however, and the concept of community is not expanded upon.

Another element explored in interviews was the possibility of a governing body or central authority developing within esports, and the current structure of loose rules and regulations did not distinguish esports from online gaming in general. The participants also had thoughts on who these governing bodies should be. Some identified games developers, some mentioned event hosts, but the interviewees agreed that the concepts around a central body are still evolving.

Of the outlined elements, the interviewers did not identify what should constitute a full definition of esports. For example, respondents did not determine if esports should be seen as an electronic version of regular sports. Overall, this research is conducted in a novel and unique way, and offers some valuable insights. The methods used limit the effectiveness however, as the techniques used are small scale and potentially subjective. Besides, what is missing is for a truly better understanding of esports in a unified framework drawn from the different perspectives tackled.

2.2.2.5 Towards a unified framework for esports research (Cranmer et al., 2021)

Cranmer et al. (2021) is one of the more influential and contemporary discussions around how research should be undertaken on esports. This subsection is dedicated to this research as it represents a far-reaching and forward-looking research perspective. The research conducted by Cranmer et al. (2021) is particularly in-depth and extensive, while utilising a range of quantitative tools to explore esports research. The authors make the point that esports research is lacking a clear direction and that “this has

hindered esports from embracing opportunities afforded by emerging digital technologies and progressing as a distinct field" (Cranmer et al., 2021:116). As a result, taking the form of an extended review paper, the authors develop a structure with the purpose of redefining esports, proposing a unified framework to "capitalise on esports business potential", and to motivate a more structured future for research on esports (Cranmer et al., 2021:116). A matrix is developed composed of four areas which help distinguish esports:

- Esports as a representation of current physical sports (sports digitalisation);
- Esports as traditional (multi-player) game experience (competitive multiplayer computer games);
- Esports that modify existing sports, player rules and setups through digital augmentations (digitally enhanced sports), and
- New types of esports involving emerging technologies such as virtual and augmented reality (immersive reality sports).

The authors begin by exploring various definitions of esports. They relay that Hemphill (2005:1999) believes that esports are "alternative sport realities, that is, electronically extend athletes in digitally represented sporting worlds", and is thus an alternative sports reality. This is a conclusion not often drawn elsewhere and has some issues when esports take place outside of a sporting context, as esports are often conducted in fictional, conceptual, settings that bear no resemblance to sporting worlds. Cranmer et al. (2021) then consider García and Murillo (2020:170), who claim that "prior to official

or definitional acknowledgment of esports, first it is necessary and relevant for researchers to define whether esports are a sporting activity". This is a topic often debated in esports research and in wider consideration of esports, but it is not recounted elsewhere that a discussion of whether esports is sport should come before discussion of a definition. However, it must be acknowledged that Garcìa and Murillo (2020) published in a sport journal, hence the need to justify the relevance of esports to sport. Based on Reitman et al. (2019), Cranmer et al. (2021:116) also outline, framing the field succinctly, that depending on the discipline "esports is a nontrivial debate that underlines scholars' framing of their research", with varying degrees of emphasis on physicality, computer mediation, infrastructure and spectatorship".

Referring to Bányai et al. (2020), Cranmer et al. (2021:116) identify that newer definitions of esports have emerged that "focus on esports as a form of alternate sports, or a special way of using or engaging with gameplay". This newer wave adds to the confusion around the definition of esports, while being a more complete description of the field. This confusion, as explained by Cranmer et al. (2021), is that there are a number of perspectives from which it is approached. Relying on Jin et al. (2010), the authors argue that this confusion and the complexity of the research field are increased due to esports research being conducted at the nexus of "culture, technology, sport and business and, unlike traditional sports (e.g. hockey, football), esports is an interconnection of multiple platforms synonymous with gaming (e.g. computing, media)" (Cranmer et al., 2021:117). Chikish et al. (2019), as outlined by Cranmer et al. (2021:117), go even further, stating that "esports has a more complex structure than

traditional sports, because agents can assume multiple roles, and in this way esports and sports play should be viewed as complementary". Chikish et al. (2019:61) propose that the "esports industry is opening the new era in the sports industry". This is echoed by a less academic source; according to the Olympic Council of Asia "the rapid development and popularity of this new form of sports participation among the youth" could be the catalyst for esports to be recognised as a sport in the future (Graham, 2017).

These definitions are outlined in table 2.2. This adds important context to the research to be conducted in this thesis.

Table 2.2

Overview of esports studies and definitions

Author/s	Definition	Aim	Methods
Gaming and Culture			
Wagner (2006)	"an area of sports activities in which people develop and train mental or physical abilities in the use of information and communication technologies"	Establish foundation for the study of esports to influence future research	Literature review
Jonasson and Thiborg (2010: 288)	"competitive gameplay which borrows forms from traditional sports"	Future research agenda	Literature review
Witkowski (2012: 350)	"organised and competitive approach to playing computer games"	Examining sportiness of esport	Observations and interviews
Steinkuehler (2019)	–	Coordinate research to augment theoretical, methodological and thematic esports perspectives	Systematic literature review
Reitman et al. (2019)	–	Converge research from different disciplines	Systematic literature review
Sports Management			
Jenny et al. (2017: 4)	"organised video game competition."	Comparison of esports to traditional philosophical and sociological definitions of sport	Conceptual literature review
Funk et al. (2018: 9)	"esport is a modern and highly-structured activity that requires physical actions of the human body to decide a competitive outcome"	Propose inclusion of organised esports events and competitions in sports management	Literature review

Hallmann and Giel (2018)	–	Examining defining characteristics of sports in relation to esports	Conceptual literature review
Qian et al. (2020)	–	Development of motivation scale for esports spectatorship	Mixed methods (interviews and surveys)
Psychology and Philosophy			
Hemphill (2005: 199)	"alternative sport realities, that is, to electronically extended athletes in digitally represented sporting worlds"	Exploration of computer games as form of sport	Conceptual paper
O'Connor et al. (2015)	–	Examination of experiences of MMOG social interactions	Interviews
Bányai et al. (2020: 352)	"esports are alternate sports, and a special way of using video games and engaging in gameplay"	Review of esports empirical studies of from psychological perspective	Literature review
Socio-Cultural			
Weiss (2008: 572)	"playing competitive games according to generally accepted rules of leagues and tournaments on the Internet"	Proposed model for cultural influence of esports engagement	Conceptual paper
Seo (2016)	–	Examination of consumer behaviour and professionalization	Conceptual paper
Choi, Hums, and Bum (2018)	–	Examination of Asian gaming addiction and delinquency	Questionnaires
Computer Science			
Ma et al. (2013)	–	Difference between sports and online gaming	Literature review
Hamari and Sjöblom (2017: 1)	"a form of sports where the primary aspects of the sport are facilitated by electronic systems; the input of players and teams as well as the output of the esports system	Examining viewership and spectatorship of esports online	Online questionnaire

	are mediated by human-computer interfaces"		
Filchenko (2018)	–	Comparison of traditional and esports	Literature review
Marketing			
Seo (2013)	"Competitive Computer gaming"	Identify experiential value of esports and stakeholder networks	Conceptual Paper
Gawrysiak et al., (2020: 1)	"esports refers to organised video game competitions that serve as a non-traditional model of sport that has established itself as a commercialised entertainment enterprise"	Exploration of esports brand utilisation and marketing	Literature review
Health			
Wattanapisit et al. (2020)	–	Exploration of esports related health concerns and related injury/illness	Conceptual literature review
Economics			
Karhulahti (2017: 50)	" Institutionalized player-driven activity"	Relevance of economic research in esports	Conceptual literature review
Parshakov and Zavertiaeva (2018)	"Competitive computer gaming"	Comparisons between countries engagement with esports	Questionnaires, Regression analysis

Source: Cranmer et al. (2021:117)

Cranmer et al. (2021) aim to develop a framework for analysis of esports in the future, identifying a number of key elements that should make up this framework. Sport digitalisation is seen as important, explaining that esports versions of traditional sports have grown in popularity, such as FIFA and the FIFA eWorld Cup, NBA and the NBA 2 K League, and Formula 1 with the F1 Esports Series. It is also argued that partnerships with traditional sports also give credence to considering the digitalisation of sport. A number of traditional sports teams have embraced esports, for example, Manchester City football club recently recruited a FIFA player to lead their esports division (LPL, 2020), representing a genuine incorporation of football into football-based esports. The NBA have also assembled esports versions of their teams to play virtual versions of their leagues; as relayed by Filchenko (2018:2-3):

> "Kings Guard, the professional esports team for the Sacramento Kings (NBA team), have just started their first season and their facilities include a world-class training facility and state-of-the-art content studio (NBA.com). All of these developments in the past several years show how the gap is closing between esports and traditional sports".

The competitive nature is also outlined as one of the core elements of esports by Cranmer et al. (2021). The key to the initial growth of esports is attributed by the authors to the shift in focus from player-versus-machine to player-versus-player. An outline of contemporary esports research is provided by Cranmer et al. (2021:117), including more cutting-edge research such as artificial intelligence (AI), machine learning and big data analytics, but the reason for including "Competitive multiplayer (computer) games"

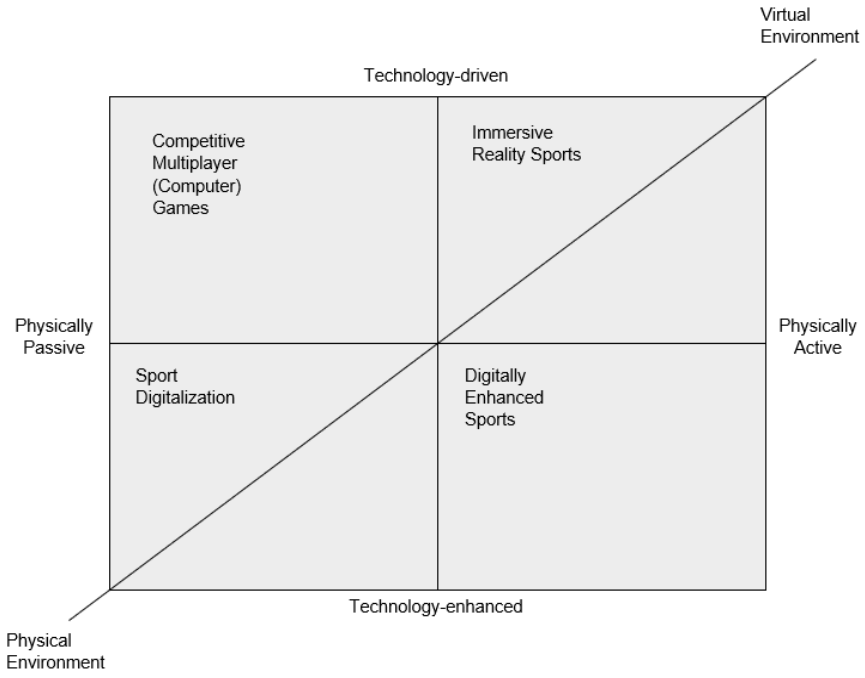
as part of a research framework is not clearly defined or explored. Similarly, “digitally enhanced sports” is included as a form of crossover between sports and esports (Cranmer, 2021:116), with a traditional, physical sport, such as augmented reality components which have been added to ping pong. While this could be an area of development in the future, it is not clear how this is likely to influence research into esports now, particularly when the electronic element is more of an enhancement to a regular sport than an esport. Similarly, Cranmer et al. (2021:117) suggest “Immersive reality sports” as another area of potential research into esports, suggesting “Emerging technologies, such as augmented reality (AR), virtual reality (VR) and mixed reality (MR) offer new levels of experience and interactivity”. This seems to overlap with “digitally enhanced sports” somewhat, and similarly the direct link to esports is currently not clear.

These elements of esports are combined and illustrated by Cranmer et al (2021:116) in order to “advance conceptual and empirical understanding of esports” by proposing “a unified esports Matrix as the basis for further research and development in esports”. Cranmer et al. (2021) identify that a limited number of studies have attempted to classify consumers in esports, with examples given including Williams et al. (2008) and Jansz et al. (2010). The authors also explain that Lee and Schoenstedt (2011), and García and Murillo (2020) study the link between esports and traditional sports, investigating “the degree of complementarity to one another” (Cranmer, 2021:117). Based on the definitions explored previously, four realms are outlined: “esport as a representation of current physical sports (Sports Digitalisation), esports as traditional (multiplay) game

experience (Competitive Multiplayer Computer Games), esports that modify existing sport and player rules and setups through digital augmentations (Digitally enhanced Sports), and new types of immersive esports involving the implementation of VR (Immersive Reality Sports)" (Cranmer et al., 2021:117). These four realms are then developed into a matrix, seen in figure 2.5.

Figure 2.5

Cranmer et al.'s Esports matrix



Source: Cranmer et al. (2021:117)

As outlined previously, some of these elements are not currently relevant to esports in its current format. This is addressed by Cranmer et al. (2021:117), e.g., in relation to immersive reality sports: "The latter could potentially lead to new emerging forms of

esports, as well as change current traditional sports". However, it is not explored in depth how esports could transition to a state where the newer elements of the matrix become more important.

In order to verify the validity of the matrix, five international esports professionals are interviewed, including a German esports expert, an American former Call of Duty professional having worked as a branding and strategy specialist, two Netherlands-based esports experts working on projects such as r Ziggo ebattle F1, and a Korean esports expert who has co-founded two esports companies. Three different topics were discussed with these experts: "How to define the scope of esports? What knowledge is necessary and relevant in these categories? Where do we stand now and what is the future of esports?" (Cranmer, 2021:117). One of the more important suggestions was to define categories to help reach wider audiences, with the example given that "influential esport decision-makers have backgrounds in traditional sports, and as such incorporate a schemata based on traditional sport experiences, mainly linking with the Sport Digitisation category, but may not be applicable to other categories" (Cranmer, 2021:117). This exploration of the matrix developed assisted by the interviews of industry experts also introduces the idea of countries 'moving' around the grid: "The Korean expert, suggested that in Asia esports has already progressed from the upper-left of the matrix 'competitive multiplayer computer games' to the upper-right 'immersive reality sports', and future esports growth will transpire in each domain of the esports matrix" (Cranmer et al., 2021:117).

Justification for the research conducted in this thesis is also provided by Cranmer et al. (2021:117) in a discussion of why the matrix developed is valuable to esports practitioners: “brand managers and strategists want to know how to activate brands in esports, how to curate content to reach brand goals (regardless of the category) and how to create partnerships and deal with rights and IP (intellectual property) and laws”. It is also found that despite potential for growth in areas like VR and technology enhanced sports, the esports experts suggested that “competitive multiplayer games will remain the main focus for future esports growth and development” (Cranmer et al., 2021:117). The classification of esports events (chapter 4) can provide a reliable and consistent framework for event managers to signpost and market their events and provide them with context for the size of the events they are responsible for. Chapter 6, considering business models vs. event size, can inform brands on strategy and provide them with options if they are enthusiastic about providing a game capable of becoming an esport. Similarly, chapter 7, considering the case study of Overwatch and its potential free-to-play (F2P) switch, can also provide guidance and offer information for already established brands which are seeking transformation while remaining relevant in esports.

Among the conclusions drawn are elements which could direct the research being conducted in this thesis: “Future attention should focus on understanding audience engagement, esports communities and identifying indicators for esports maturity to enable growth and realisation of esports industry growth potential that involves all stakeholders” (Cranmer et al., 2021:116). The pursuit of the classification of esports

events falls directly into the suggested areas of attention, facilitating understanding of audience engagement, and identifying indicators of growth of esports events. The authors close their extensive research with a rallying call to develop the organisational structures in esports research due to the growth of esports and potential for future research, in order to “capitalise on the potential to harness innovative and emerging technologies, engage new audiences and establish novel organisational structures to advance esports development” (Cranmer et al., 2021:116).

This research has some real, genuine insights on esports research, both looking forward to potential future research in the inclusion of augmented reality and virtual reality as core aspects of research, and the current status of esports with the consideration of and the emphasis on competitive multiplayer computer games. However, there are some issues with the work of Cranmer et al (2021). There are no direct quotations from the esports practitioners interviewed, and the topics they are asked are mentioned only in passing. There is also a lack of explanation of where the four realms identified come from. It is only superficially explained how these four areas of importance are determined. This is also an example of the confusion around the methodology of the research, which is ill defined and meandering. Furthermore, the methodology employed also does not provide justification for the considerable inclusion of augmented and virtual reality esports. While these could be massively important in the future, it is not considered how they will become important, or if they could fade out of importance. Virtual reality has existed for a while now relative to the timeline of esports, but we have seen only minimal impact on esports, so where is the evidence

that it will change in the future? The same could be said for digitally enhanced sports, which have had an even more marginal impact on esports and similarly it is difficult to see how this could end up as an important aspect of esports.

On the other hand, the work of Cranmer et al. (2021) does have some important insights, representing one of the only examples of a forward-looking piece of research into esports, including insights derived from genuine experts in the field and also providing a framework for how research could be conducted in the future in the form of the matrix provided.

2.2.3 Synthesis of 2.2 and definition of esports used in the PhD thesis

This section highlighted the lack of a single definition of esports and the various, often contrasting viewpoints, with some arguing that esports should cover any element of competitive video gaming, and others that it should only cover the professional or paid elements of video gaming. Some definitions are broader, such as those presented by Wagner (2006), Jenny et al. (2017) and Parshakov and Zavertiaeva (2018), with a lack of specific elements. Some definitions are narrower, like that by Hemphill (2005:1999) who talk about “alternative sport realities, that is, to electronically extended athletes in digitally represented sporting worlds”, which is too specific by outlining specific mention to sporting worlds. Games like LoL, Dota, and even more realistic games like some of the Call of Duty series or CS:GO are unrelated to sport. The environment in which they take place has sporting elements but are unrelated to sport. Warr (2016) specifies video gaming but maintains that amateur events should still be considered esports. This is

also a major theme, where it is unclear where esports should be situated, as a description of professional (i.e. paid) video gaming, or whether it should just describe all competitive aspects of gaming. This raises further questions on what esports should describe, if it considers any element of competitive video gaming to be esports, this likely describes the majority of any video game and by association the majority of most players, which dilutes the definition of ‘esports’ beyond what a usable level might be. Other important dimensions of esports are the relation to their videogames and them being business/industry-driven (Scholz, 2019, 2020), as well as whether esports are an institutionalised game or not (Abanazir, 2019; Summerley, 2020). Another significant theme identified is the fragmented nature of the research area, which can be linked to the different perspectives of esports (Freeman and Wohn, 2017). Considerable research is undertaken in disparate and disjointed research areas, with the primary topic being something less focused on esports such as psychology or physiology (Cranmer et al., 2021; Reitman et al., 2019). The most comprehensive review of this fragmentation and subsequent diverse definitions is undertaken by Cranmer et al. (2021), seen in table 2.2. Newer types of video games are not considered extensively, such as augmented or virtual reality. This idea is raised by Cranmer et al. (2021). Both of these are newer than established, more conventional video games, but could see a growth in research. It is likely that these are not considered extensively yet as they have not been adopted widely.

A significant amount of literature looking at esports considering its definition raises the question of which of these definitions is to be adopted by this PhD thesis. Hamari and Sjöblom (2017:1) outline a definition with a balance between specific and broad: “a form of sports where the primary aspects of the sport are facilitated by electronic systems; the input of players and teams as well as the output of the esports system are mediated by human-computer interfaces”. However, this definition may be too focused on esports as a sport. Cranmer et al. (2021) provide a useful synthesis of the noteworthy definitions of esports, considering a range of fields and research areas. Based on this synthesis, the authors propose the following working definition: “electronic sports (esports) involves competitive, organised or technologically enabled activities encompassing varying degrees of physicality, virtuality and technological immersion” (Cranmer et al., 2021:117). This definition is balanced between broad and specific, while being also balanced in terms of esports being a sport or not, with the reference to activities rather than sports and varying degrees of physicality. Due to Cranmer et al. (2021)’s definition of esports being well-balanced, it is chosen as the working definition in the present PhD thesis.

2.3 Is esports a ‘real’ sport?

Whether esports is a ‘real’ sport or not is debated extensively. Various definitions of both esports and sport are outlined, and contrasting viewpoints are drawn. Parry (2018) is a good example of a researcher that argues esports are not a sport. Parry contends that many esports researchers use a limited or specific definition of a sport, which leads them to define esports as sports. The author then proceeds to do the same thing, using only a definition of an ‘Olympic sport’ to determine that esports are not sport. No definition or outline of esports is drawn, and no rigorous process is undertaken, only a subjective, opinion-focused viewpoint. Even more examples can be drawn from non-academic sources, such as ESPN’s President declaring that esports is a competition, not a sport (Tassi, 2014). This question ostensibly seems trivial, but has implications for visas, funding, and policy. Based on the literature reviewed, this thesis takes the viewpoint that esports is closer to sport than not, but that the diverse nature of esports and particularly the range of professionalism or seriousness means that a decision could not be drawn on esports as a whole. It is also the position of this thesis that esports should be accepted as its own significant topic and research area, although the reasoning for the debate around esports being sport is acknowledged and accepted. The definition adopted by this thesis is close to the conclusion drawn by Scelles et al. (2021), who contribute to the debate in their attempt to assess whether the peculiar economics of professional team sports apply to esports. The authors find a mix of similarities and differences and conclude about the possibility that esports are a specific form of sports.

Exploring perspectives on esports and their respective definitions and explanations of esports is important to contextualise the work conducted in later chapters. These perspectives, academic and non-academic, will now be explored in-depth.

2.3.1 Non-academic perspectives

An area of significance within esports literature, touched on previously, is whether or not esports should be seen as a real sport. This is a contested topic, with many authors weighing in with different perspectives. When considering the wider topic of research into sports, the question over what should or should not be defined as a sport is often debated. Among more non-academic sources there are many examples of where criteria are outlined then applied to determine what is and is not a sport. Scaletta (2011) outlines the dictionary definition of sport: “An activity involving physical exertion and skill in which an individual or team competes against another or others for entertainment”, before going through a list of examples and determining, based on this definition, what is and is not a sport. Poker is deemed to be not a sport as it lacks physical exertion and physical skill. Bowling is argued to be a sport as it requires physical exertion and physical skill, as is NASCAR as it requires a high degree of physical skill to be able to drive compete. Competitive gaming (esports) is deemed to be not a sport as it does not require physical exertion or ability. Little justification is offered for this decision, and no reasoning is offered for why, for example, elite level esports professionals like Fortnite or DOTA 2 professional players who conduct many mechanical actions in a few seconds lack physical exertion.

Steinberg (2018) uses a similar definition to explore whether esports is a sport, while discussing the inclusion of esports in ESPN's television broadcasting. Numerous questions are asked to explore the possibilities of various activities being defined as sport: "Is any competition, which is on television and billed as a sport, a sport? Does the entire body need to be involved, does it need physical exertion, does reliance on a machine to provide the locomotion disqualify it?". Ultimately the conclusion is drawn that despite televised activity affecting viewership and popularity, whether or not an activity is a sport is more subjective than objective.

Moffat and Brennan (2021) again explore whether esports is a sport, proposing arguments from opposing positions. Moffat and Brennan (2021) argues that as sports require physicality, and esports requires a physical presence, this classifies as a sport: "Without the physical human being, video games would not be played. Now, you could say anything involving a person is a sport with this concept. However, if you bring entertainment, competition, and hard work into the fray, esports have strong connections to the idea of sport". Even if the physical and mental aspects of esports are ignored, there is still the amount of time required to become a professional according to the authors: "The likes of Rocket League, Overwatch and Dota 2 require thousands of hours to master… You cannot jump into a video game and be anywhere near the level of the best players". Moffat and Brennan (2021) also outline how esports could be

construed as a sport, explaining that if you were to use the definition outlined by the Council of Europe, esports could be classified as a sport: “Sport means all forms of physical activity, which through casual or organised participation, aim at expressing or improving physical fitness and mental well-being, forming social relationships or obtaining results in competition at all levels”. Brennan then goes on to explain that some esports could be considered as sports (Call of Duty, Overwatch, Counter-Strike), but others require no physical exertion (Hearthstone) meaning esports as a whole cannot be classified as sport. Esports, Brennan suggests, should be claimed as a separate label. It is acknowledged why esports could pursue a label as a sport: “Official sporting recognition comes with a multitude of perks, amongst them governmental support and lottery funding. Recognising esports as a sport certainly comes with a gigantic financial incentive”. However, embracing esports as a disparate, distinct area should be the approach used according to Brennan.

2.3.2 Academic perspectives

2.3.2.1 Esports: competitive sports or recreational activities? (Hallmann and Giel, 2018)

Hallmann and Giel (2018) also explore whether esports can be considered as a sport. They begin by reflecting on esports being potentially included in the 2022 Asian Games, considering that this decision reflects the fact that the “rapid development and popularity of this new form of sports participation among the youth could constitute a milestone for esports to be officially and worldwide recognised as a sport” (Hallmann and Giel, 2018:14). However, Hallmann and Giel (2018) explain that this is still under question, and for good reason. Germany, for example, offers subsidies for sport, and the example of the card game ‘bridge’ is outlined, given that Austrian, Danish, French, Dutch and Belgium tax authorities recognise bridge as sport (Miles, 2017). Without stating it outright, Hallmann and Giel (2018) imply that if bridge is a sport, why are esports not considered a sport? One point made by the authors relates to how adolescents and young people are connected with esports, and as a result “esports illustrate one possibility to reach the youth and connect them to at least virtual sporting activities, which again might induce growing interest to practise sports themselves” (Hallman and Giel, 2018:14). There is minimal justification for this offered however, it is suggested as something of a throwaway point and would be strengthened with some justification.

Hallmann and Giel (2018) then consider five criteria for the definition of a sport, sourced from Rodgers (1977) who argued that two factors should always be present in a sport: it should involve physical activity and be practiced for recreational purposes. Further, Rodgers also argues sport should involve some competition and have a framework of institutional organisation. Rodgers (1977) then suggests general acceptance, outlined by Gratton and Taylor (2000), such as by the media or sports agencies. These five criteria are then evaluated by Hallmann and Giel (2018) as to whether esports fit and could be defined as sport.

Esports and physical activity correspond to the first element explored. The point is made that activities like chess, darts or esports, given the lack of physical exertion, are questionable to be defined as sport. Three different definitions for esports are provided by Hamari and Sjöblom (2017), the Olympic Council of Asia (OCA) and the Cambridge dictionary, none of which include any mention of physical activity. The point is then made that “Referring to the sports definitions of the Council of Europe (2001) as well as of Rodgers (1977), it would be easy to conclude at this point that esports cannot be a sport, as it does not include any particular physical activity” (Hallmann and Giel, 2018:15). However, there are examples of other, similar sports which have similar characteristics yet are defined as sport, such as chess which is defined as a sport by the German Olympic Federation. Hallmann and Giel (2018) also argue that research conducted by Witkowski (2012) and Rudolf et al. (2016) both justify the physical element of esports through different means. Witowski (2012) argues that esports

players are engaged physically in different ways, “as professional players, for example, have a balanced body which is not mimicking the movements of their virtual avatar and are haptically engaged through the use of their keyboard and mouse to steer their avatar”, and Rudolf et al. (2016) show that esports players are “exposed to physiological stresses and strains during competitions”, which are comparable to other sports (Hallmann and Giel, 2018:15). This raises the question, however, of games which take place outside of competitions, i.e., the practice for recreational purposes (Rodgers (1977)’s second criterion). Professional esports competitors regularly take place in ‘scrims’, which are practice games often taking place against other professionals (Duwe, 2021). The definition outlined by Rudolf being limited to competitions only would create a situation where esports are sports and not sports inside and outside of competition.

The next consideration by Hallmann and Giel (2018) is competitive elements. This is argued to be comprehensively displayed through the various esports leagues and tournaments, which have grown even further since the publication. Organisational structure is analysed next. The point is made that the IOC sees organisational structures as a key factor in the IOC defining esports as a sport, with one of the main concerns at the time being a lack of umbrella organisation damaging the ability for esports to be recognised as a sport (Hallmann and Giel, 2018). These authors argue that despite esports leagues and competitions mirroring traditional sport, there are some differences such as the lack of important federations and reliance on online

broadcasting. There are a number of points of intrigue to be noted around this consideration. Organisations in esports have never been larger, with several examples of esports organisations being valued in the hundreds of millions. A model example of this is ‘FaZe Clan’, an organisation that competes in esports and manages esports professionals, which was recently valued at over $1bn (Ashley, 2021). This point of contention, that esports lacks significant organisations yet has many highly valued organisations, could be excused by the growth in the industry since the date of publication by Hallmann and Giel in 2018.

The final point of consideration for Hallmann and Giel (2018) is around esports acceptance, such as via the media or traditional sports organisations. Examples are given to display how this has been more prevalent in the years prior to the publication. FC Schalke 04 and VfL Wolfsburg both already had esports teams, the German sport magazine Kicker a dedicated esports section, and the German sports channel Sport1 had been broadcasting esports on its TV channel (Hallmann and Giel, 2018). Finally, it is noted that research in esports has increased, and this could also signify acceptance around esports. There are clear differences between the date of publication and now, with esports moving into the mainstream even more.

Hallmann and Giel (2018) help contextualise the area of research this thesis is operating in. Identifying whether or not esports are sport helps to determine whether or

not research on traditional sport is applicable to esports, but will also determine the methodology used later for both classification of esports events, indexing of events and when considering business models whether typical business assumptions can be applied in this context.

2.3.2.2 Sportification of esports? (Scholz et al., 2021)

Scholz et al. (2021) consider a similar topic to Hallmann and Giel (2018), but from the perspective of sports teams entering the esports atmosphere. It is reasoned that sports clubs need to find a way to connect with a young audience while promoting digitalisation and internationalisation, with esports being a way of doing this. As a result, as Scholz et al. (2021) relay, over 400 professional sports clubs entered the industry by the end of 2019. Scholz et al. (2021) consider three cases where sports clubs had entered esports, with issues, and a case is drawn for why a strategy is needed for the entering of esports by sports teams. Scholz uses an exploratory method to determine the number of esports teams, explaining that there is no other set or established method for identification of teams. 418 teams are identified, with the year they entered and the name of the team. Building on previous work by Scholz (2019), Scholz et al. (2021) identify eight types of teams, based on their motivation for being in esports at the time. The results found are identified in table 2.3.

Table 2.3

Scholz et al. (2021) typification of teams

Type	Number	Percentage
(1) Individual (esports) players for the digital version of the core business	101	24,16%
(2) Esports teams for a variety of games	50	11,96%
(3) Esports teams for a variety of games in a different country	2	0,48%
(4) Joint ventures with an existing esports team and creating a new brand	9	2,15%
(5) Temporarily withdrawing from esports	13	3,11%
(6) Creating a dedicated league	189	45,22%
(7) Buying a franchise team	25	5,98%
(8) Individual investors	29	6,94%
Total	418	100%

Source: Scholz et al. (2021:5)

Perhaps the most unexpected results of this research relate to categories 2, 5 and 6. Category 2, where esports teams cover a variety of games is not unanticipated in itself, but the large number is perhaps surprising. The same could be said for category 6, by far the largest, but again this is not surprising as a many examples exist of firms entering an industry purely for the reason of buying into a league. Category 5 is unexpected, and while the number is low it identifies where a team has bought into a league and not been successful, with Scholz et al. (2021) acknowledging the significant resources required to compete at the highest level.

Three case studies are drawn to illustrate the motivation of sports teams to enter esports. SSV Lehnitz is cited as an early example of a sports team entering esports, with Scholz et al. (2021:7) arguing that the brand did this “to make their brand internationally known, reach a young audience, attract new sponsors, and improve their image”. The team was successful until 2006 when it shut down due to issues with contracts and its non-profit status. Schalke 04 is given as the second example, with this being cited as unusual as it has tried to tie its sports and esports teams as closely as possible and has taken esports particularly seriously. Schalke 04 purchased a slot on the European LoL Championship. The club has acknowledged it as its strategy to tie fans of sports and esports together, as opposed to one umbrella company holding various brands, with Scholz et al. (2021) citing the example of the Kraft Group, who control the New England Patriots, and the Boston Uprising Overwatch League team. Paris Saint-Germain (PSG) is drawn as the last example by Scholz et al. (2021), who explain that PSG entered esports at the same time as Schalke 04, but withdrew their LoL team after querying the economic balance of competitive LoL. Scholz et al. (2021) note that PSG has remained in esports however, with individual FIFA players and a Rocket League team that disbanded in 2019. PSG does have some other esports teams it either partners with or owns, with examples including Rainbow Six Siege, Arena of Valour, Fortnite, and in 2022 PSG returned to LoL temporarily by partnering with the esports company Talon (PSG.fr, n.d.).

One of the main arguments and key points made by Scholz et al. (2021) is that there is a sportification under way within esports, it is observable, and companies are trying to manage their moves into esports. It could be argued that the lines between esports and sports are becoming more blurred, with ownership, partnership or sponsorship, all examples of how sports companies or teams are integrating with esports. This has implications for this research as these large companies will have influence beyond that of a typical, perhaps smaller esports firm.

2.3.2.3 Esports and intercollegiate athletics in the US (Kane and Spradley, 2017; Keiper et al., 2017)

Kane and Spradley (2017:1) cover a similar topic in a similar vein, but consider two specific examples in their commentary which examines “the definition of a sport and determines that competitive video games should apply to the meaning” before considering “how esports should be recognized by the National Collegiate Athletic Association (NCAA)”. While this may seem narrow in focus with it being particularly focused on the US, the US represents 30% of the global sports market and seven of the ten largest esports teams are based there (Torrens University, 2020). The authors begin by describing the history of esports before focusing more specifically on whether esports can be defined as a sport, outlining physical exertion, skill and competition as the three most significant aspects of sport. These are seen in previously considered literature, but the authors use more applied examples to evidence, for example, “In the United States, professional gamers can obtain P-1 visas, which are given to athletes. In 2013, professional gamer Danny “Shiphtur” Le was the first to receive a P-1 visa for

esports” (Kane and Spradley, 2017:3). However, there are some issues, such as relying heavily on academic papers which are not then critically analysed in any depth. The paper then moves to exploring esports within college sports, an important consideration within the culture of US sport, with college sport being worth $18.91bn in 2019 (Richter, 2021). The point is made by Kane and Spradley (2017) that the definition of a sport by the NCAA could incorporate esports, and esports are already recognised and organised on college campuses. Several benefits are laid out for esports being acknowledged formally, including economies of scale with facilities, the possibility of bringing in viewers over the internet and locally, and the potential for the college to engage with a low cost sport in comparison with traditional sports. This research is important as it offers an insight into the future of esports and how it can develop within a scope not often considered, but clearly vital to the future of esports.

Keiper et al. (2017) look at a similar type of case study, considering League of Legends (LoL) and its inclusion in college athletic departments. The reasoning for potential inclusion is that the “significant growth of esports can be seen far beyond the participation numbers and spans from esports’ events being hosted in major arenas and televised on ESPN” (Keiper et al., 2017:143). The mention of esports events benefitting from a significant growth is directly relevant to the present thesis and provides further justification for its relevance. The paper presents “(1) a brief history of esports, (2) a further developed definition of esports, (3) esports size and market scope, (4) and provides an overview of esports in intercollegiate athletics to date”, and the main goals

of the paper are to “create awareness around the economic growth of esports and shed light on the potential positive implications of adding esports to intercollegiate athletic departments” (Keiper et al., 2017:143). The authors point to a number of factors indicating the growth of esports. Global viewership, global revenue, prize money, sponsorship and media coverage are all considered, with coverage on ESPN, the inclusion of esports in the X-Games and growth in coverage all being tackled as more specific examples (Keiper et al., 2017:143). The factors included are of direct relevance to the present PhD thesis and the classification of esports events suggested later.

The next consideration by Keiper et al. (2017) is around the specifics of esports within two colleges, the University of Pikeville and Robert Morris University. However, this does not add any level of analysis or insight into esports, providing a purely descriptive outline of the esports programmes at these institutions. This does have the effect of outlining the increasing professionalism within esports at a collegiate level, but offers little insight. The potential positive implications are then explored. These implications are important not only for collegiate esports but esports more broadly. Three different implications are outlined, which are all positive reasons for increasing participation in esports. Revenue generation is seen as an important factor: “esports popularity and significant tournament attendance may assist NCAA institutions with turning a profit. Boasting attendance numbers that rival many major sporting events, esports could potentially be a significant revenue source for athletic departments and the NCAA alike. For example, consider the 73,000 fans who attended the Electronic Sports League four-

day tournament in Poland in March of 2014" (Keiper et al., 2017:11). It is argued that esports can also help with increasing levels of inclusivity (female participation) and diversity, with higher percentages of minorities either being interested in or competing in esports, and it is stressed that this can also help with diversity requirements put in place in the college system. There are however, some issues with this research. One of the main goals is to "create awareness around the economic growth of esports" (Keiper et al., 2017:143), but this is not addressed at anything more than a superficial level. There is also not much consideration of the differences between esports and sport. Revenue generation is seen to be important, but the example given is the Intel Extreme Masters (IEM) event by the Electronic Sports League (ESL) which is one of the largest in esports. How smaller events can be monetised is not considered.

2.3.2.4 Where do esports fit within the definition of sport? (Jenny et al., 2017)

One of the most influential papers within the exploration of esports and whether it is or should be defined as a sport is by Jenny et al. (2017). They open their research with a non-academic definition of esports from Segal (2014): "a catchall term for games that resemble conventional sports insofar as they have superstars, playoffs, fans, uniforms, comebacks, and upsets... But all the action in [esports] occurs online, and the contestants hardly move" (Jenny et al., 2017:1). This is an adequate, descriptive definition but is not technical enough for a sufficient level of analysis. Further context is provided for the growth and size of esports, with Jenny et al. (2017:1-2) noting that "in

October of 2013, an LoL championship garnered up to 8.5 million simultaneous online viewers—the same peak viewership for that same year's decisive game of the National Hockey League's (NHL) Stanley Cup finals (Wingfield, 2014b)". Jenny et al. (2017:2) explain that LoL is one of the most popular esports, and it has "several hundred professional gamers on salary, most of whom practice up to 14 hours per day in order to stay competitive at the elite level", and a significant amount of players: "In 2014 it was cited that LoL had 67 million active monthly players globally, who spent $122 million playing the game". Finally, before analysis is undertaken regarding definitions, two reasons are noted for why esports have grown, namely "increased accessibility of technology and access to elite competition", extending accessibility to include participation, with the example given of Gfinity, which "provides online daily esports competitions and awards almost $50,000 in prize money each month" (Jenny et al., 2017:2).

The analysis and the answering of the research question of where esports fit within the definition of sport begins with a consideration of esports within the context of NCAA athletics, much like Kane and Spradley (2017) and Keiper et al. (2017) previously reviewed. Jenny et al (2017:2-3) state that "In June of 2014, Robert Morris University in Pittsburgh became the first university to recognize esports as a varsity sport supported by the athletics department and offer "gaming" scholarships (50% tuition and 50% room and board) for these "esports athletes." Over $500,000 in "athletic" scholarships were doled out to its gamers (Wingfield, 2014a)". The University of Pikeville followed suit later, with a total of 511 active teams in the United States and Canada. Several potential

benefits are touted by Jenny et al (2017:3), echoing Keiper et al. (2017): “Revenue generation, increased physical activity, and improved participant diversity within intercollegiate athletics are all potential value-added areas associated with the incorporation of esports into the pantheon of sport”. Each of these areas is then explored in more depth, and each is justified effectively apart from increased physical activity, through motion-based activity. This is then discussed later on in the paper, when the definition of a sport is examined in relation to esports, but this is only superficially discussed.

The conclusions drawn by Jenny et al. (2017) are significant as they do not agree with most research conducted and argue that esports are not sport: “It appears that esports include play and competition, are organised by rules, require skill, and have a broad following. However, esports currently lacks great physicality and institutionalization” (Jenny et al., 2017:15). Furthermore, the authors argue that the condition of competition in esports may be seen as insufficient by some, as “winning in esports does not entail physically overcoming an opponent” (Jenny et al, 2017:15). The lack of physicality is the most convincing argument made, with the idea being that “a refinement of the definition of sport, or the use of MBVGs, will need to occur before esports are totally accepted by the majority of society as authentic versions of sport” (Jenny et al, 2017:15). This is a fair argument, but takes a narrow view on the physical requirements of an esports competitor. This also ignores a diverse, complex and vast array of institutions within esports which cater to all kinds of stakeholders, and dismisses various definitions of sport which either do not require a physical element or do not place as much

importance on physical aspects. The determination that esports lacks competition is not well founded either, with many examples available to disprove this. This could, however, be a result of the less advanced and professional stage of esports in 2017 compared to more recently.

2.3.2.5 Changing the esport debate in the sports arena (Billings and Hardin, 2022)

This idea of esports being disputed as a sport is continued in a recent editorial by Billings and Hardin (2022) in relation to the special issue edited by the authors in *Communication & Sport*. The authors explore the definition of esports, beginning by arguing that the most significant and accepted definition of sport used by scholars could be used to define esports as a sport: “a repeatable, regulated, physical contest producing a clear winner” (Rowe, 2004:12). Billings and Hardin (2022) make the point that esports offer a repeated but variable field, they are highly regulated with large amounts of prize money and dedication by attention from colleges, and they require physical exertions and reaction times. The editorial then refers to the papers in the special issue which are significant in shaping the discourse on esports, two of which are of particular interest to the literature review being conducted, namely Rogers et al. (2020b) and Tang et al. (2022).

Rogers et al. (2020b) use an approach parallel to a case study examining NBA 2K, the video game and associated esport to the American basketball league. This is similar to

that being considered later in this PhD thesis when focusing on Overwatch. NBA 2K is selected for analysis for a few reasons, such as it being one of a few esports which is derived from a sport (basketball), and it being accessible across multiple platforms. These points are questionable, however. NBA 2K is not the only esport linked to a traditional sport, with Madden and its NFL series, and FIFA with its football series both being popular. NBA 2K is also far from being unique with accessibility across multiple platforms also; in fact, among some of the most popular esports (Fortnite, CoD, LoL) this is more the norm than the exception. Regardless, NBA 2K is examined, and significant differences are found between esports and NBA 2K in the consumption motivation, for example “the motivations to watch NBA 2K were more intense than the motivations to watch esports in general” (Rogers et al., 2020b:15). As a result, Rogers et al. (2020b:175) suggest that “esports should not be considered a monolithic concept”. This is counter to most accepted definitions (see table 2.3), which do not add any caveats related to any specific esport, for consumption, participation or similar. The outlined genres of esports outlined previously by Chaloner (2020) are all classified as types of esports and would be following any conventional definition rather than being defined as their own entities, which would be the implication of following the findings of Rogers et al. (2020b). The authors call for future research to be more nuanced in analysis of esports, but do not offer any detailed suggestion for how this could be conducted beyond separation of NBA 2K from other more distinct esports, due to its unique nature. It is difficult to see how this could be applied practically however, as esports tend to be considered from a broad perspective rather than based on each

esport individually. There is also the issue of stating that NBA 2K has different consumption patterns. The research conducted by Rogers et al. (2020b) is relatively unique and has not been replicated across a broad range of esports, with one other prominent example being the aforementioned Hamari and Sjöblom (2017). As a result, it cannot be stated that NBA 2K has different consumption patterns to similar or more distinct esports. Future research could answer this, but to argue that esports cannot be amalgamated purely on consumption patterns of one being unique, is overstating the importance.

Tang et al. (2022) consider a similar topic but from a broader perspective. The authors begin by exploring the definition of esports, determining that definitions by Wagner (2007, definition similar to Wagner (2006) previously explored in this review) and Warr (2016) who refined Wagner's definition in a non-academic outlet are suitable. As a reminder, Wagner (2006:182) defines esports as "an area of sport activities in which people develop and train mental or physical abilities in the use of information and communication technologies". Warr (2016) reduces this, "suggesting that esports is a form of sports, where electronic systems facilitate as the primary function of competitive gaming for either professionals or amateurs" (Tang et al., 2022:197). The authors also relay research by Adams et al. (2019) who argue that esports gameplay takes place across multiple levels, from amateur to professional. Regardless, Tang et al. (2022) then state that the definition of esports is disputed and has not been determined. They argue that the connection between sports and esports has strengthened, with examples including refined leagues, widespread broadcasting, comparative measures and

comparable structures all being examples of where esports and sports have become more similar. This perspective is then used to examine factors which predict esports gameplay and spectatorship. A survey is undertaken to explore this, the major conclusions being that preferences, motivations, availability, and access significantly predicted both esports gameplay and spectatorship. Also, sports fandom and use of interactive features only predicted esports spectatorship but did not influence gameplay. This research is important in the context of this thesis as it bridges the gap between viewership and gameplay, and attempts to explore how esports are consumed.

2.3.3 Synthesis on esports as a 'real' sport or not

Non-academic perspectives are important, as they are embedded in real life considerations of esports, such as the possibility of esports being suitable for TV broadcasting (Steinberg, 2018). From an academic perspective, definitions are explored in much more depth. Hallmann and Giel (2018) and Scholz et al. (2021) both contribute to the exploration of esports as a sport, with in particular Scholz et al. (2021) making a convincing argument that the two are becoming similar and the lines between the two are blurring. The works of Kane and Spradley (2017) and Keiper et al. (2017) outline the importance of college/university level esports. Tang et al. (2022) propose a key argument which is to be taken forward in this thesis; namely that the definition of esports is disputed and not yet confirmed. This is why the definition provided by Cranmer et al. (2021) that has been selected earlier for the present PhD thesis is a

working rather than definitive definition. Overall, most esports research considered concludes that esports are sport, this is the position taken forward in this thesis.

2.4 (E)sports events, sporting mega events, and classification

A gap in the literature is represented by the area of esports events. This is particularly evident in relation to large events and tournaments as more and more esports specific events are taking place such as the Overwatch and Fortnite World Cups (Epic Games, 2019; Hore, 2021). Over 40 million players participated in the 2019 Fortnite World Cup, which indicates how quickly the scope and popularity of these events have increased (Epic Games, 2019). This is compared to 10,305 athletes competing in the 2020 Olympics in Tokyo (Lane, 2021). Developing a system of classification, based on Müller (2015)'s taxonomy for mega-events, can help standardise the type of data collected by researchers around esports events to create a higher degree of uniformity and comparability.

2.4.1 Soft power and sporting events

An interesting aspect of sporting mega events which has not extensively been applied to esports is the idea of soft power. Soft power is when "one country gets other countries to want what it wants might be called co-optive or soft power in contrast with the hard or command power of ordering others to do what it wants" (Nye, 2012:166). Brannagan is one of the most influential authors on this topic, and explores this idea in relation to sporting mega events from a number of different perspectives. Brannagan

and Giulianotti (2014) explain how Qatar has hosted sporting events, made sport related acquisitions and invested in sports infrastructure as part of its soft power strategy. The authors highlight the example of the 2022 FIFA World Cup and how this was promoted “to overcome issues related to health and well-being; progress and modernization; and peace and security” (Brannagan and Guilianotti, 2016:154). The idea is that Qatar uses sport to improve its appeal and influence through emphasising how advanced it is in terms of science and technology and by influencing others, showing how advanced and safe it is. Brannagan and Guilianotti (2016) also introduce the idea of soft disempowerment to describe the antithesis of soft power, where influence is lost on an international stage. The conclusion drawn by the authors is that the success of Qatar and their use of soft power depends on their ability to manage any soft disempowerment. This is identified as potentially occurring externally through mistreatment of workers employed in construction of facilities for the World Cup, and internally through the legacy of sport and physical activity after the event has taken place.

Brannagan and Rockwood (2016) consider a similar perspective, examining the perspectives of supporters on the decision to award Qatar with the 2022 World Cup and exploring the strategy employed by Qatar. Three different perspectives are drawn by the authors based on thematic analysis: the state’s suitability as a football destination; the dubious awarding of the 2022 World Cup; and Qatar’s cultural backdrop and domestic policies. This research is influential as it attempts to contribute to policymaking by addressing supporters’ concerns. This research also provides insight into how what

might seem to be major issues with Qatar are not seen as being as significant by supporters. This has implications for any potential soft disempowerment taking place as a result. The authors conclude by arguing that Qatar provides a compelling case study. A similar call could be made to examine soft power in the context of esports. It could be theorised that any overt and sophisticated programme of soft power in esports might come later given its relative infancy and lack of popularity compared to the example drawn here in the FIFA World Cup, but it is worth considering soft power in an esports environment considering the adoption of sports-related soft power policies by countries like Qatar.

2.4.2 (Sports) mega-events and classification

Sports mega-events (SMEs) have been considered widely, around a large variety of subject areas and research topics (see e.g. Horne, 2021). Minimal research has been undertaken regarding esports events, and even less regarding the classification of esports events. This chapter attempts to build upon the existing body of research developed by Müller (2015), Flyvbjerg (2014) and colleagues by applying these ideas to esports events, while maintaining a grounding in the theoretical basis established in the study of SMEs. SMEs are typically one-time sporting occasions on an international scale, often organised by an authority and yielding high levels of media attention. There are often economic, tourism and infrastructure impacts as a result (Byers et al., 2012). These events are no more than one month long, but with preparation times being over five years, with large capital investments for host countries. Existing literature places

much emphasis on either cost benefit analysis, or macroeconomic indicators and how they change relating to SMEs (Blake, 2005; Keim, 2015).

The term SME embraces a plethora of event types and sports. Müller (2015:627) aims to clarify and delineate the research on (sports) mega-events, with the intention to create a platform for future research by presenting “a definition and classification scheme for mega-events”. Müller (2015)’s work is unique as there is a paucity of research specifically considering classification of (sports) events. The author builds on existing definitions to outline four “constitutive dimensions” – namely visitor attractiveness, mediated reach, cost and transformation – before mapping these onto nine large sporting events. A classification system is then developed as a result of these, with three distinct levels of events emerging: major, mega and giga events. Müller (2015) included the caveat that to be classified as major, an event must feature an ‘L’ size in one dimension, in order to be mega it must feature two ‘L’ dimensions and to be a giga event it must feature three ‘L’. Giga events are seen to be a contemporary concept, fuelled in part by growing costs (Müller, 2015). The most influential component is the development of a ranking structure, with events ranked based on the four dimensions outlined.

These dimensions are derived from pre-existing definitions, with nine papers and their respective definitions being presented as justification for the four individual elements. Visitor attractiveness is included due to the study of mega-events being “firmly rooted in tourism and leisure studies”, with a minimum of one million ticket sales required for an event to qualify as a mega-event (Müller, 2015:628). However, Müller (2015) notes that

many events would miss this notional target. Mediated reach is considered using the valuation of broadcast rights as a contrast to attractiveness and its focus on in-person attendance, capturing those who watch the event in front of a screen as opposed to in-person. Nevertheless, there is no consideration of inflation in the use of broadcasting rights, and it does not account for external variables that could determine the size of fees paid (e.g. location could be an important factor in fee determination).

Cost is another characteristic considered by Müller (2015:632), with the reasoning being that attractiveness and reach “focuses on the output side of mega-events”, and cost captures input and spending on infrastructure. Again, this does not embrace any variance caused by inflation, and does not account for local variations in cost. Some mega-event locations will naturally have much higher costs, for example, if hosted in a city centre rather than rural location. Transformation is the final dimension, with Müller referring to definitions including Hiller (2000:183), who argues that mega-events should have “significant and/or permanent urban effect”.

Flyvbjerg (2014) outlines a system of classification of events but does not relate his work to sporting events. The classification developed by Flyvberg represents the closest parallel to that created by Müller (2015), and the only other work of significance in the area. Flyvbjerg (2014:6) defines ‘megaprojects’ as “large-scale, complex ventures that typically cost a billion dollars or more, take many years to develop and build, involve multiple public and private stakeholders, are transformational, and impact millions of people”. These events are seen as having influences upon society, and do not fit into pre-existing structures, with “aspirations, lead times, complexity and stakeholder

involvement” completely different to normal sized projects (Flyvbjerg, 2014:6). Flyvbjerg (2014) considers the Olympics as an example of a megaproject, alongside space exploration, logistics systems and transport. The point is drawn that four ‘sublimes’ (technological, political, economic and aesthetic) need to be considered, which are outlined as “the drivers of the scale and frequency of the projects discussed” (Flyvbjerg, 2014:9). In other words, a significant amount of the justification for hosting these events is contained within the four elements called ‘sublimes’.

2.4.3 Considerations relevant to esports events

Müller (2015) defines mega-events based on definitions previously presented by other authors. However, some limitations can be identified in both these pre-existing definitions and the overarching definition formulated by Müller. These are linked to the specific focus on mega rather than any event. This in turn offers justification for a reformulated, more suitable and up to date definition, which could be applied to either an event in general, or an esports event in particular. Of the nine definitions included by Müller, six provide mention of an element which is linked to a geographical location. However, when considering more recent events, the focus on a destination is less applicable given the likelihood of any given event being online-only, particularly since lockdowns and restrictions on travel during the coronavirus pandemic. For example, in esports, of 217 tournaments recorded as of March 2021, 214 were hosted online (Esportsearnings.com. n.d.). One illustration of how events have been forced to change is the 2021 Call of Duty League, which would have otherwise been in-person, with

teams competing locally (Hicks, 2021). Hence, this serves to illustrate that events can take place in a cyberspace (as opposed to a physical geographical space). In fact, the presence of a cyberspace allows for long distance, connected events on a scale not seen previously. Yet, previous definitions are bounded to the necessity of a geospace. Furthermore, the definition by Jago and Shaw (1998) makes reference to events being "one-time" and "of an international scale", the latter dimension being also reported by Roche (2002) and Gold and Gold (2008). Both of these considerations are not applicable to any esports event.

Mills and Rosentraub (2013) make reference to "large public investments". Again, it can be argued that this does not apply to any event. For example, esports events typically do not have much public investment. Private investment tends to be much more popular, but more likely to be associated with esports teams. Investment of any kind in esports events is unlikely to be classified as large, particularly when compared to investment in SMEs. The final definition drawn by Müller (2015) also has a number of issues when applied to a broader context or specifically to esports. One of these issues is the focus on physical events, while technological progresses enable online events, which is relevant to esports. The current Covid-19 situation and its potential future impact strengthen the reasoning for a rise in online and/or 'hybrid' events, which are "communities of which the network infrastructure include both a physical (event) environment and a virtual (online) component" (Simons, 2018:145).

Consistent with the previous elements, another limitation of Müller (2015:634)'s definition and criteria when applied to wider events and esports events is the idea of

“large impacts on the built environment”. Esports events tend to be hosted in existing structures with only temporary changes made. For example, the 2019 Fortnite World Cup, one of the largest events included in the dataset of the current study, took place in a venue designed to host tennis (Stuart, 2019). Finally, another limitation to Müller (2015)’s classification is that the scores determined are based on ranges subjectively decided by the author for each dimension, rather than more elaborated calculations based on a transformation of the initial raw values. Building an index can address this issue.

2.5 Gaming business models

Gaming business models can be divided into three different models: free-to-play (F2P), buy-to-play (B2P) and pay-to-play (P2P). In this PhD thesis, gaming business models are considered at two levels: in relation to their impact on the size of esports events; and as part of a case study analysis undertaken on a switch to free-to-play for Overwatch. Three papers initially identified as relevant (Massarczyk et al., 2019; Seidl et al., 2018; Luton, 2013) then extended to other papers are considered to better understand gaming business models and form a model for extensive analysis on a potential switch from B2P for Overwatch. This requires an in-depth analysis, but literature on the business models considered (F2P, B2P, P2P) including the three papers initially identified will be undertaken here, before conducting a brief literature review considering Overwatch. In the results chapter considering the case study of

Overwatch, the three aforementioned papers will be considered again, but from an analytical perspective with a view to building a model for analysis.

2.5.1 Massarczyk et al. (2019) about identifying analysis criteria

Massarczyk et al. (2019) explore the potential business models a publisher could pursue based on what model best fits each game, and which model promises the best financial returns. This work can be considered significant as one of the only examples of trying to survey the whole industry and the variety of available models. The advantages and disadvantages of the three most prominent models are considered, while also developing a ranking system to establish a method of comparison. It is identified that despite increasing complexity, more competition and development costs increasing, prices for video games remain stable, meaning videogames struggle to break even (Massarczyk et al., 2019).

B2P is identified as a medium that provides a copy of the game to the user, with a fully developed product. It is proposed that this system could also be used in conjunction with in-game purchases: “Developers and publishers try to keep the customers in the loop and skim off any additional willingness to pay” (Massarczyk et al., 2019:481). Often these transactions are cosmetic with no in game benefit, however, “In view of the fact that customers have already spent an average of 30 to 40 Euros on the purchase of the game, such micro-transactions are generally little accepted by users” and the authors reason that “they often feel that they cannot fully experience the video game without

additional payments, which seems unacceptable to them" (Massarczyk et al., 2019:481).

Despite the possibility of B2P events having more to spend on their esports, the beginnings of B2P and F2P esports have similar patterns. Overwatch, for example, as one of the larger B2P esports, had a series of small community-based events with, when compared to the esports events considered in chapters 4 and 5 and more recent events, miniscule prize pools. Professionalism and organisation followed after, when the publisher of the game embraced the already developing esports system. Similarly, Fortnite as one of the largest F2P esports began with community-based non-publisher events before its esports became more organised. There appears to be an exception to this, however, when considering esports with more history or legacy. Dota 2 and CS:GO both had larger, more corporate events towards the beginning of their event history with larger prize pools, but both of these had existing, previous games in their series that had serious, semi-serious or competitive elements established.

The P2P model requires a subscription, with an ongoing regular payment a requirement for access, sometimes with also an initial cost. This is often popular with online multiplayer games. Massarczyk et al. (2019:481) argue that this system is not as popular as it once was, with game developers now aiming "to transform the business model from a pay to play to a F2P model with in game shop and micro-transactions".

With the F2P business model, Massarczyk et al. (2019:481) argue that "players can use a (basic) video game without payment". Similarly to the idea of selling additional

cosmetic items in the B2P model, F2P relies on in game purchases, such as “additional features, enhanced design and additional game levels” (Massarczyk et al., 2019:482), but requires these transactions to take place to recover development costs. The point is made that “In contrast to the B2P and P2P models, in which users can easily overlook the fixed one-off or monthly payments, F2P video games make it easier for players to lose track of the amounts actually paid, so that they often spend more money than they would spend on video games in the other business models” (Massarczyk et al., 2019:482). However, there is little evidence presented to support this statement. Conversion rates are also outlined, with the explanation that “users through these additional offers is usually very low at 1% to 5%” (Massarczyk et al., 2019:481), meaning large player bases are needed to recoup development costs.

After outlining basic information for the three most dominant models, a framework is developed to establish the best model for publishers, based on a number of criteria. It is reasoned that regular payments are better than one off payments, “as these guarantee stable longterm earnings and therefore, a high degree of planning security and calculability” (Massarczyk et al., 2019:483). P2P is suggested to be the most stable model as revenue is regular, followed by F2P (Massarczyk et al., 2019). B2P is seen to be an unreliable source of income due to only one-off generations of income. Two non-financial criteria are also used for evaluation, namely customer data and compulsory permanent internet connection. The criteria used are summed up in table 2.4.

Table 2.4

Business model analysis criteria

Criteria	B2P	P2P	F2P
Server availability	1	0	0
Provision of patches	0.5	0	0.5
Provision of content	0.5	0	0.5
Sum	2	0	1
Mean	0.67	0	0.33

Source: (Massarczyk, Winzer and Bender, 2019:487)

This research has practical applications for considering the case of Overwatch, as this framework can be applied to consider whether a switch from B2P to F2P would be viable. Based on table 2.4, the initial result that can be anticipated is that the switch would be a rational decision. However, there is a need for a more in depth understanding of the F2P model, as well as the specific case of Overwatch.

2.5.2 Seidl et al. (2018) about switching business models

There is little research undertaken on the situation of a publisher switching a game from one payment system to another. Yet, there is a relevant research paper by Seidl et al. (2018), who create a quantitative theoretical model considering a subscription-based system and a F2P system. The focus of the switch between systems is based on revenue coming from those who use the game heavily, with the optimal situation depending on a number of factors, including “how rapidly casual users escalate to this more intense playing state, the willingness of users to pay for additional content, and the costs of changing the business model” (Seidl et al., 2018:714). The biggest advantage of the F2P model is identified as being that it can attract higher levels of new players initially, due to the lack of initial purchasing costs. As a result, “if the initial willingness of players to pay for additional content is low but general interest in the game is high, then it is optimal to start with a subscription model and then switch to F2P later at an optimally determined time” (Seidl et al., 2018:714). Costs of switching are also identified, with there being some adaptations needed for software and hardware development. This has implications when switching systems. If costs are too high a switch cannot take place, and if there is a lack of heavy users the necessary costs of switching cannot take place. Other significant findings include that advertising is particularly effective in F2P models, and if games do not have a flow of players consistently converting from casual to heavy, a subscription-based model is better suited. This research can be used in the applied context being considered later in this

PhD thesis, with justifications considered relating to whether Overwatch is suitable to be switched from B2P to F2P.

2.5.3 Focus on free-to-play (F2P)

2.5.3.1 Initial insights from Luton (2013)

One of the most comprehensive statements around the F2P structure in videogames is developed by Luton (2013), who provides a well-constructed account around the economics, gameplay, monetisation, analytics, and marketing of F2P games. Much justification can be drawn for the research being conducted. A few examples are given, specifically related to mobile gaming but still applicable:

> "When in-app purchases finally made their way to the App Store, we tested the waters by adding a few purchasable themes to Scoops (our most profitable game at the time) and making it free. Again, people thought we were crazy, but the game ended up making the same amount of revenue as when it was a for-purchase game and generated ten times the audience" (Luton, 2013:8).

This shows how a shift from a paid to a F2P model can create opportunities. The point is also made that "having a much larger fan base and exponentially larger word-of-mouth marketing for our games because they are free are valuable benefits" (Luton, 2013:9). Justification is also offered for how to encourage players to come back, how to monetise, and how to understand and serve players. These characteristics, which will

be considered in depth later, have implications for this PhD thesis as they can be used to establish the suitability for Overwatch pivoting to a F2P system.

2.5.3.2 Additional insights from other sources

Alha et al. (2014) outlines the perspective of gaming professionals on F2P videogames, using a qualitative, interview focused technique. This method provides some valuable insights into the motivations related to F2P videogames, for example:

> "Paying would not commit the player to continue to pay in the future, but everyone can decide how much they are willing to pay, and at which stage. It was also stated that F2P games have to be good to get people to continue to play them and to pay for them, whereas traditional games could be bad and still get the players' money" (Alha et al., 2014:4).

This offers insight as to how the videogame industry is evolving generally, and why players' preferences are evolving.

Furthermore, F2P often has a different requirement in terms of development:

> "F2P games are often developed forward after the launch. Other games make most of their profit right away, and there is not a similar interest to keep evolving them. F2P games have to earn the money after the player has already made the acquisition decision" (Alha et al., 2014:4).

This has some implications for this PhD thesis, as Overwatch already has a robust system of developing regular content, and a strong current player base that could sustain it going forward. The outcome of attitudes towards F2P in interviews being mixed illustrates that opinions are not uniform, and there must be alternative motivations for pursuing a system focused on content not being paid for.

Lin and Sun (2010) examine community perceptions to F2P games through examination of Taiwanese message boards, magazines and interviews. The authors specifically consider “the influence of free game market trends on fairness and immersion and attitudes toward increased commercialism in virtual fantasy game worlds” (Lin and Sun, 2010:276). Six themes are identified in the analysis undertaken, namely fairness, fun, order and quality, immersion, free market issues, and gameplay balance. Lin and Sun (2010:283) argue that F2P is legitimising “what monthly payment game players perceive as underground or black market activity”; namely the buying and selling of in-game items. It is reasoned that so-called “black market” exchanges take place between players, F2P takes place between players and game companies, and as such the relationship between the two parties is changing to treat players more like consumers. Players are seen to actively “avoid the standard gaming business model”, seeing themselves as free riders (Lin and Sun, 2010:283). Overwatch has a current player base that have (mostly) paid to purchase the game, but when the game was released in 2016 and since this paper was published, the concept of F2P has changed significantly. Perhaps the identification by Lin and Sun (2010) captured the early signs of a movement away from traditional payment structures towards F2P.

This idea is reflected by Hamari et al. (2017:1450) who argue that F2P has become the "de facto business model for online services", considering online services generally rather than videogames specifically. The main challenge of F2P and freemium models is to create demand. In terms of Overwatch, this is significant as it already has an established level of demand and an existing level of players. Hamari et al. (2017:1449) explain that "the freemium business model (or "F2P" as it is known in the game industry) refers to a product/pricing structure where the core service is free but the revenue is generated through the sales of additional products and premium services". Hamari et al (2017) undertake research considering opinions around F2P systems, completing a survey of videogame players. Among the significant findings is that quality does not determine intention to continue usage of F2P games, which is not to be expected based on consumer expectations of B2P games. This is extended with the authors relaying that within F2P and freemium structures, "the premium content is rarely aimed at enhancing service quality; instead the premium offers are strongly associated with game progress, social interaction, player performance or aesthetic and visual aspects" (Hamari et al., 2017:1455). Some conclusions are drawn that are applicable for consideration of Overwatch. Quality should focus on player retention, general sentiment towards F2P and freemium games tends to be negative, but perhaps most importantly is the assertion that this two-tiered system of free and premium pricing results in an effective method of price discrimination. Indeed, the authors argue that "the freemium model is able to capture the value from even non-paying customers (in form of

increased network effects) as well as offer different amounts of value that match every customer's willingness-to-pay" (Hamari et al., 2017:1457).

2.6 Literature on Overwatch

There is a selection of literature considering or mentioning Overwatch, but the field is dominated by those who do not have Overwatch as a core consideration, consider Overwatch from a peculiar or narrow perspective, or only mention Overwatch in passing. Fanfarelli (2018) considers the expertise of professional Overwatch players, beginning with a useful overview of expert Overwatch players. The author explains that "expert game players must master complex skills that work in synchrony with the game's mechanics" (Fanfarelli, 2018:2). Fanfarelli (2018:3) also provides a definition of Overwatch, stating that it is "a competitive online multiplayer first person shooter (FPS) game where players form into two teams of six players each in objective-based play. Players choose from a large roster of playable characters, called heroes, who each have their own special abilities, strengths, and weaknesses". An overview of the Overwatch esports system is also given, with Fanfarelli (2018:5) explaining that the league and its associated teams have developed regulations around "salary, tournament winnings, benefits, contract length, and housing and practice facilities", with specific cities having associated teams. Fanfarelli (2018:5) also adds that "significant figures" have invested, such as "Robert Kraft, Chief Executive Officer of the Kraft Group and the New England Patriots and Jeff Wilpon, Chief Operating Officer of the New York Mets".

Fanfarelli (2018) then undertakes a thematic analysis of 12 interviews with professional Overwatch players and as a result identify two major themes and eight sub themes:

1. Game Sense: Survival, Anticipation / Prediction, Communication, Thoughtfulness.

2. Mechanics: Aim, Ability Usage, Movement and Positioning, Team-based Mechanical Synergies.

The paper helps convey the level of professionalism and the advanced nature within professional Overwatch, explaining the intricacies of the highest level of the associated esports.

Another significant piece of research regarding Overwatch is undertaken by Blom (2018), who considers the world and story within Overwatch as a way to connect consumers. The author explains that the various types of media associated with Overwatch in the form of games, comics and videos help strengthen the shared universe and marketing associated with the game: “As a large connected network, consumers of the game have access to the comics and films as well which means that the awareness of the connection between players extends to an awareness of players as consumers of Overwatch as a universe” (Blom, 2018:11). This conclusion is important as a measure of how significant Overwatch is outside of an esports context, underlining its overall importance and impact.

Scholz (2021) attempts to explain the mechanisms and evolution of Overwatch, how it evolved and the convergence within the business model network. Scholz's (2021) usage of the phrase 'business model' is slightly different to the usage in this thesis. Scholz's (2021) usage is more general and describes a businesses movement, where the use in this thesis is more specific, just looking at the type of monetisation used. Scholz (2021:100) explains the process by which Overwatch League evolved, outlining how it "was prepared on the drawing board" differing from other esports like LoL which naturally unfolded over time. Scholz (2021:101) outlines how when determining an esports league or tournament, developers can use a convergent or divergent process, moving away from or towards other "esports leagues, sports leagues, media/entertainment concepts" or similar. This is related to Overwatch, which hired sports executives and as a result had "a convergent tendency towards traditional sports structures" (Scholz, 2021:101). The author also explored how the developer interacts with the associated esport, explaining that with Overwatch, the developer (Blizzard) is dominant, but the developer for CS:GO is less important. This has potential interactions with the business model used in this thesis, with likely interaction with how a business employs a F2P, B2P or P2P model.

Scholz (2021:105) synthesises the situation around Overwatch and its esport:

> "In the case of Overwatch, the dominant force in the business model network is the game developer Activision Blizzard. Not only are they the game developer, they are the sole tournament organiser, they are creating the media content, they negotiate with the sponsors, they decide which teams participate, they stipulate

> the rules for the players, and essentially Activision Blizzard is the governing body of Overwatch League".

Scholz (2021) argues that Overwatch League is converging towards a past iteration of an esports league, titled the Championship Gaming Series, which was not successful and collapsed, and is classed as a significant failure. The author contends that Blizzard's previous esports success stories of Starcraft and Warcraft came about with the developer taking a laid-back role, where Overwatch is different. Scholz (2021) proposes a list of strategies Overwatch could take to rectify potential issues, including embracing the university league system to have a solid second tier, increasing salaries to encourage loyalty to the league, and adjusting the regions that compete. Scholz (2021) concludes by arguing that by trying to control all of the game and the esports league, Activision Blizzard jeopardises the long-term success of the game as a top esports title. Balancing converging and diverging will result in a more optimal strategy. This is relevant for the later chapter of this thesis that considers Overwatch, in particular the list of suggestions for Overwatch to improve its esports system.

2.7 Synthesis of chapter 2: Is esports a real sport, insights, and gaps

This chapter reviewed the research area to be explored in this thesis. Esports as a 'real' sport or not, (e)sports events and classification, video game business models and Overwatch were the main areas, with associated and linked areas also explored. There are a number of major themes identified. Particularly pertinent to the research of esports is an area of research considering whether or not esports is a sport. This is covered

extensively in the research area, with many different perspectives offered. Also considered broadly are the similarities and differences between esports and sports.

There is some consideration of esports events, but it does not tend to be the primary aim of research on esports and contribute significantly to the debate about whether esports is a sport. This is a gap in the research areas, with esports events growing significantly over time. A pertinent example of this growth is seen with a recent CS:GO major taking place in Brazil, when 18,000 tickets were sold out in 60 minutes, with fans pushing for the venue to be changed to the 78,000 seater Maracanã national stadium (Marsh, 2022). This kind of example illustrates why, along with the paucity of research on esports events and the literature review conducted here, research considering esports events should be expanded.

Consideration of videogame business models focuses on three models: free-to-play (F2P), buy-to-play (B2P) and pay-to-play (P2P). It appears to favour F2P models over others, which is understandable based on the dominance of F2P within the industry. Research on Overwatch is diverse in terms of the research aims, objectives and the field which it considers. Fanfarelli (2018) and Blom (2018) contribute to this, but Scholz (2021) is particularly relevant in his consideration of how Overwatch can adjust its business model to be more successful. This aligns with the research aim to be considered in chapter 7, but from a different perspective.

Three gaps in the literature related to the topics tackled in this chapter are: a classification of esports events; the impact of video game business models on the size

of esports events; and the impact of a switch of business model for Overwatch. They are tackled in the next chapters of this PhD thesis, starting with an overview of the methodology applied.

3. Methodology

3.1 Introduction

Due to the relatively underdeveloped literature around esports, this research follows an exploratory design in nature. Exploratory research is defined by Kumar (2019:38) as "when a study is undertaken with the objective either to explore an area where little is known or to investigate the possibilities of undertaking a particular research study." This will be combined with elements of explanatory research, where "the main emphasis is to clarify why and how there is a relationship between two aspects of a situation or phenomenon" (Kumar, 2019:38).

Esports are a growing area according to most commercial and industrial sources. Sinclair (2021) explains that the US and Europe are the fastest growing, with viewership in the US increasing by 129% up to 48 million from 2020 to 2024, whereas France, Germany and the UK are expected to see growth size by 78% to 32 million in the same period. Those who attend events or compete in tournaments will grow even more significantly, from 121 million in 2020 to 266 million in 2024. These categories of fans also spend more on esports, in some cases double a regular esports viewer. Those engaging with video games and esports are also engaging more, with a typical video

gamer spending 8 hours and 27 minutes each week playing games in 2021, which is an increase of 14% compared to 2020. It was also found that 44% play more than seven hours per week and 25% clock more than 12 hours per week (Combs, 2021). The growth in prize money is also worth noting, with a 60% increase in prize money in 2021 compared to 2020, from $124.9m in 2020 to $201m in 2021 (Gideon, 2022). This is identified as actually being lower than the established trend from before the coronavirus pandemic, when esports prize pools were doubling year on year. An interesting comparison is between esports and traditional sports. TI10, the 2021 iteration of the Dota 2 flagship event, had a prize pool worth $40m, which is significant compared to, for example the 2019 iteration of the IPL, the Indian short-form cricket league, which had a prize pool of $7m (Royte, 2022). The TI is comparable to some events in tennis, such as The Australian Open which had a pool of $62m in 2019, or Major League Baseball's World Series which had a prize pool of $80m in 2019.

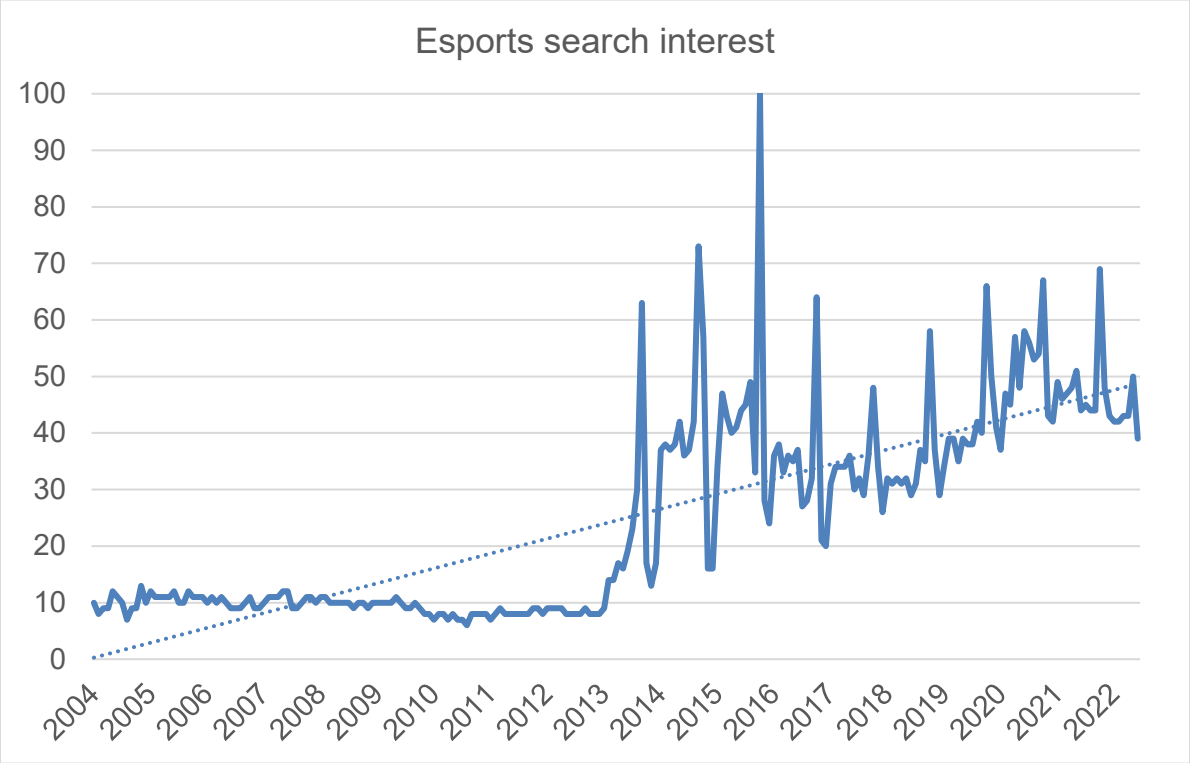
Gough (2022b) outlines how rapidly esports is changing, with the esports market valued at just under $1bn in 2020, growing to $1.28bn in 2021, at a growth rate of 32%. Gough (2021) also highlights how the size of esports audiences globally has grown from 397.8m in 2019 to 474m in 2021 and an expected level of 577.2m in 2024. These sources and statistics are included to demonstrate how esports have grown and are still growing, and how this naturally dictates that due to this constantly evolving research area, an open and experimental nature is required of the methodology.

More scientific or academic sources, along with non-academic sources indicate an increased interest in esports over time. Figure 3.1 shows the level of interest since 2004

in the topic ‘esports’, representing “search interest relative to the highest point on the chart for the given region and time”. As shown, esports is seen to be around 5 to 10 until late 2012 where a sustained but changeable rise is seen, with a peak in April 2020 of an index value of 100.

Figure 3.1

Google trends data



Source: Google Trends, n.d.

This chapter highlights the philosophical and design choices which are utilised in later chapters. The ontological, epistemological, axiological and reasoning approaches are

first explored. Different approaches on each of these are studied. Ethics are explored briefly, as minimal ethical consideration is needed. Following this, research design, including a debate on quantitative vs. qualitative approaches is examined, alongside a consideration of primary vs. secondary data. Finally, the research design selected and methods applied in later chapters are presented, and the benefits and drawbacks of each choice are explored.

3.2 Ontology, epistemology, axiology, reasoning, and approaches for theory development

3.2.1 Introduction

Klenke (2016:14) explains that “it is not possible to conduct rigorous research without understanding its philosophical underpinnings. In qualitative and quantitative research, the researcher’s philosophical assumptions about ontology, epistemology, methodology, and axiology are critical in framing the research process and require transparency”. The author further outlines the idea of incommensurability of paradigms, the idea that different research paradigms produce incomparable kinds of knowledge, meaning different assumptions around reality and truth make it impossible for researchers to compare knowledge built under different paradigmatic assumptions. This concept, that knowledge produced through a particular paradigm is incompatible with other types of knowledge produced through other paradigms, is something this thesis takes into account. A more flexible method is used, which nullifies this idea of incompatible assumptions.

Ontology is defined as the “branch of philosophy concerned with assumptions about the nature of reality or being” (Lee and Saunders, 2017:111). Ontology asks the question ‘what is the nature of reality?’, of which the answer goes on to inform a researchers’ paradigm and philosophy.

Epistemology is the “branch of philosophy concerned with assumptions about knowledge, what constitutes acceptable, valid and legitimate knowledge, and how we can communicate knowledge to others” (Saunders et al., 2016:128). Epistemology, similarly to the paradigmatic question asked when determining an ontological approach, asks “How do we know what we know?” (Klenke, 2016:15). Epistemology deals with the origin, nature, and limits of knowledge. Epistemology is also responsible for “ways of knowing and the researcher’s belief system about the nature of knowledge, such as beliefs about the certainty, structure, complexity, and sources of knowledge” (Klenke, 2016:15). Epistemological debates also deal with issues of the possibility and desirability of objectivity, subjectivity, causality, validity, and generalizability (Patton, 2015).

Axiology is the branch of philosophy concerned with the role of values and ethics within the research process (Saunders et al., 2016). Klenke (2016:17) explains that “Our values affect how we do research and what we value in the results of our research.” Hogue (2011) examines what we value in research, suggesting that for some researchers scientific inquiry is about developing an understanding on how something works, or how people behave while for others it is an internal process, a desire to solve some burning problems. Research for other groups of researchers means informing

policy, particularly policy that has the potential of making the world a better place. For many scholars, the purpose of their research is to make a difference and contribute significantly to change.

Approaches to theory development, or reasoning, is the process of using existing knowledge to draw conclusions, make predictions, or construct explanations (Butte College, 2019). This is usually presented as deductive or inductive; although reasoning can, alternatively, be abductive. Deductive reasoning occurs “when the conclusion is derived logically from a set of theory-derived premises, the conclusion being true when all the premises are true”, where, in contrast, in inductive reasoning “there is a gap in the logic argument between the conclusion and the premises observed, the conclusion being ‘judged’ to be supported by the observations made” (Saunders et al., 2016:152). The third approach, abductive reasoning, starts with a “surprising fact” being observed (Ketokivi and Mantere, 2010:330), with this being a conclusion, or an end point, rather than a prediction. A set of premises is then developed which could explain this “surprising fact” and the conclusion drawn from it. As a result, “It is reasoned that, if this set of premises were true, then the conclusion would be true as a matter of course” (Saunders et al., 2016:152). As a result of these premises being true enough to generate a conclusion, the conclusion is also determined to be true.

All key terms introduced here are developed in more depth in the rest of the section.

3.2.2 Ontology

Grix (2010:53) explains that ontology “is the starting point of all research, after which one’s epistemological and methodological positions logically follow”. As explained by Bryman and Bell (2015), questions linked to ontology relate to the nature of social entities. The central theme is if social entities should be considered as objective and have a reality external to social actors, or whether they should be considered as “social constructions” created by the perceptions and actions of those who interact (Bryman and Bell, 2015:22). These two polar opposite positions are known as objectivism and constructionism, the two dominant perspectives within ontology.

Objectivism is defined as “an ontological position that asserts that social phenomena and their meanings have an existence that is independent of social actors” (Bryman, 2012:25). This concept suggests that phenomena exist separately or independently from those who act within them. Objectivism embraces the idea that phenomena can be observed through external facts which are beyond our reach. Ontologically, objectivism employs realism, which, “in its most extreme form, considers social entities to be like physical entities of the natural world, in so far as they exist independently of how we think of them, label them, or even of our awareness of them” (Saunders et al., 2016:128). Since objectivism embraces the idea that experiences of individuals do not influence the wider world, there is one ‘true’ reality experienced by all within it. Objectivists seek to discover the single true reality through measurable facts and figures.

The alternative to objectivism is constructionism. Constructionism (or constructivism) argues that phenomena and their meanings are “continually being accomplished by social actors. It implies that social phenomena are not only produced through social interaction but are in a constant state of revision. In recent years, the term has also come to include the notion that researchers’ own accounts of the social world are constructions” (Bryman, 2012:30). To put it another way, a researcher presents a view of reality as opposed to a true, definitive reality. Ontological constructivism claims that the knower makes the world (Smelser, 2001). Constructionism also argues that the categories developed by people to help them analyse the world are “social products”, and that these “categories do not have built-in essences; instead, their meaning is constructed in and through interaction” (Bryman and Bell, 2015:35).

These two opposing views are well explained by Lincoln and Guba (1994): positivism's "naive realism" posits that reality is both "real" and " apprehensible", whereas constructivism, from an ontological perspective, has local and specific constructed realities. In real terms, this means that with positivism, there is an observable reality, and with constructivism there are many observable realities. Cupchik (2001) argues that constructivist realism is an amalgamation of positivism, objectivism, and constructivism, in such a way that it supports an ontological approach that is more pragmatic. This is closer to what is to be employed in this thesis, with pragmatic movement between ontological approaches where suitable. Pragmatism is used in this thesis as employing one approach would be too rigid to adapt to the varied research environment of esports.

Instead of embracing one specific ontological position, pragmatism will be used to adjust to the most suitable method at each point.

3.2.3 Epistemology

Grix (2010:58) explains epistemology as “one of the core branches of philosophy concerned with the theory of knowledge, especially in regard to its methods, validation and ‘the possible ways of gaining knowledge of social reality, whatever it is understood to be”. One of the key practical considerations around epistemology is the application of epistemological approaches used by the natural sciences on other areas of research, specifically when it comes to “whether the social world can and should be studied according to the same principles, procedures, and ethos as the natural sciences” (Bryman, 2012:27). The view is taken that other research areas should replicate the natural sciences; a positivist approach would be employed.

Positivism is a changeable epistemological approach, partially as authors use it in different ways (Bryman, 2012). The underlying principle for positivism is a scientific outlook on knowledge and the world, with data collection being focused on statistics and large numbers of participants, with a hypothesis developed and deductions made. An objective viewpoint is used, with the aim being high levels of generalisability (Brown, 2015). There are a number of key principles of positivism, including “The purpose of theory is to generate hypotheses that can be tested and that will thereby allow explanations of laws to be assessed”, “Knowledge is arrived at through the gathering of

facts that provide the basis for laws" and "Science must (and presumably can) be conducted in a way that is value free" (Bryman, 2012:24).

Realism is a connected concept which shares some characteristics with positivism, namely "a belief that the natural and the social sciences can and should apply the same kinds of approach to the collection of data and to explanation, and a commitment to the view that there is an external reality to which scientists direct their attention" (Bryman, 2012:18). There are two sub-branches of realism, *Empirical realism* asserts that, through the use of appropriate methods, reality can be understood, and *Critical realism* is a form of realism whose manifesto is to recognize the reality of the natural order and the events and discourses of the social world (Bryman, 2012).

Interpretivism can be seen as an heterodoxic alternative to the positivist methods embraced by sciences. Interpretivism was founded with the idea that "a strategy is required that respects the differences between people and the objects of the natural sciences and therefore requires the social scientist to grasp the subjective meaning of social action" (Bryman, 2012:27). One of the most influential anti-positivist movements has been phenomenology, which is concerned with "the question of how individuals make sense of the world around them and how in particular the philosopher should bracket out preconceptions in his or her grasp of that world" (Bryman, 2012:26). This, alongside the concept of Verstehen, which "describes the need for subjective understanding or the ability to understand individuals or groups from the perspective of the observed, forms the basis of interpretivism" (Bell, 2013).

Pragmatism is the final approach to be considered, and while it is not considered as an orthodox or dominant type of epistemology, it is the most suited to this PhD research being undertaken. Pragmatic epistemology focuses on the idea that rather than concerning itself with debate around the nature of truth and reality, the practical understandings of real-world issues should be considered (Patton, 2015). Morgan (2014) argues that pragmatism is compatible with qualitative, interpretivist understandings of reality, but that pragmatic epistemology should focus on practical consequences. Kelly and Cordeiro (2020) state that this approach is particularly useful for organisational settings where practice and production of knowledge are intertwined. This aligns with what is being considered in this thesis, in that esports and its organisational structure can be studied in the same way. Pragmatic approaches acknowledge that individuals recognise change differently within social settings, meaning investigative processes are encouraged to be more flexible (Johnson and Onwuegbuzie, 2004). This is where the research being undertaken can benefit from pragmatism, where it is investigating an area with limited existing knowledge, so any flexibility to adjust to a more fitting epistemological approach is beneficial. The justification for adopting a pragmatic approach is best summarised by Kelemen and Rumens (2012:1):

> “rather than questioning the validity and intrinsic value of certain methods and methodologies, pragmatism encourages researchers to base choices on the relevance of these methods and methodologies ‘in terms of carrying us from the world of practice to the world of theory and vice-versa’”.

3.2.4 Axiology

Axiology studies judgements about value and is engaged with the assessment of the researchers own value on stages of the research process (Dudovskiy, 2012). Axiology refers to the aims of research, and whether the researcher is trying to explain the world, or predict it. “In simple terms, axiology focuses on what do you value in your research”, and in turn, this is significant as these values affect how research is undertaken, and what is found to be significant (Dudovskiy, 2012). Further, Saunders et al.(2016:797) define axiology as a “Branch of philosophy concerned with the role of values and ethics within the research process”, explaining that one of the key choices within axiology is the “extent to which you wish to view the impact of your own values and beliefs on your research as a positive thing”, and how you address your own values and those of the people you are researching. Heron (1996) believes that our values guide human action, so they will be reflected in our actions and extended to our research. It is also argued that this needs to be reflected upon.

The perspectives related to and involved with axiology are similar to those outlined in epistemology, but with a difference in how the perspectives are described and interpreted. One of the dominant perspectives is positivism, which from an axiological perspective describes research being undertaken in a value-free way, with the researcher being independent from the data and remaining objective. Data collection is structured, with large samples and a focus on measurement. Realism is another axiological perspective, where research is “value laden”, and the researcher is opening biased by world views, cultural experiences, and upbringings which in turn effect

findings (Dudovskiy, 2012). Interpretive axiology has a focus on the researcher being part of what is being researched, and the researcher cannot be separated from the findings with an acknowledgment that results will be subjective. This tends to be focused on small samples, with an in-depth, qualitative focus. Pragmatism is an axiological focus where values play a large role in analysing results, with the researcher adopting “both objective and subjective points of view” (Dudovskiy, 2012). This can be undertaken quantitatively or qualitatively, using mixed methods or multiple research designs.

As with the epistemological approach embraced by this thesis, pragmatic axiology will be utilised. This is most suitable to account for the different methods being embraced, with the changeable methods between chapters and the ontological approach being used most compatible with pragmatic approach.

3.2.5 Reasoning

As explained by Saunders et al. (2016), there are three main approaches to theory development. If you begin with a theory, usually developed from reading literature in the area, then you develop a strategy to test this theory, you are using a deductive approach. If the inverse is undertaken, with collection of data preceding development of a theory, then an inductive approach is being utilised. Finally, if you are collecting data and analysing it to generate a theory which is then tested through additional data collection, an abductive approach is being used.

3.3.5.1 Deductive reasoning

Deductive reasoning is aligned with what we normally understand as scientific research. The development of a theory, then a level of testing of this theory, and as such “it is the dominant research approach in the natural sciences, where laws present the basis of explanation, allow the anticipation of phenomena, predict their occurrence and therefore permit them to be controlled” (Saunders et al., 2016:124). Blaikie (2010) outlines a list of six steps which a deductive approach will follow:

1. Put forward a tentative idea, a premise, an hypothesis (a testable proposition about the relationship between two or more concepts or variables) or set of hypotheses to form a theory.
2. By using existing literature, or by specifying the conditions under which the theory is expected to hold, deduce a testable proposition or number of propositions.
3. Examine the premises and the logic of the argument that produced them, comparing this argument with existing theories to see if it offers an advance in understanding. If it does, then continue.
4. Test the premises by collecting appropriate data to measure the concepts or variables and analysing them.
5. If the results of the analysis are not consistent with the premises (the tests fail!), the theory is false and must either be rejected or modified and the process restarted.

6. If the results of the analysis are consistent with the premises then the theory is corroborated.

Deduction also has several important characteristics (Saunders et al., 2016). A structured methodology, where a search is undertaken to explain relationships is conducted, followed by development of a theory, then a number of hypotheses, before data are collected, and analysis is undertaken to prove or disprove the hypotheses and the theory developed. This facilitates replication and ensures reliability. Deductive reasoning also dictates that “concepts need to be operationalised in a way that enables facts to be measured”, with the application of the principle of reductionism, or the reducing of problems down to simple elements (Saunders et al., 2016:125). Finally, deductive reasoning has the characteristic of generalisation, where there is an aim for results to be generalised to wider populations.

3.3.5.2 Inductive reasoning

As Grix (2010:106) explains, induction “refers to ‘the process by which conclusions are drawn from direct observation of empirical evidence’ (Landman, 2000:226). These conclusions are then fed into the development of theory. Such research is not hypotheses-driven, instead, theory is generated and built through the analysis of, and interaction with, the empirical data.” Inductive reasoning follows the process of exploring and collecting data, to get an understanding of the nature of the problem before you would make sense of the data collected. This analysis would then create a theory, “often expressed as a conceptual framework”, and as such “theory follows data rather

than vice versa, as with deduction" (Saunders et al., 2016:155). The basis of an inductive approach comes from the rise of social sciences, and the aspiration to explore more than just the cause-effect relationship explored in deductive reasoning. Saunders et al. (2016:126) also explain that followers of induction would critique deductive approaches due to its propensity to develop "a rigid methodology that does not permit alternative explanations of what is going on".

With inductive reasoning, research tends to begin with detailed observations of the world, which then move towards more abstract generalisations (Dudovskiy, 2012). Using an inductive approach, a researcher will start with a topic, before developing empirical generalisations and identifying preliminary relationships. Hypotheses are not drawn at the start of the research, and the researcher does not know the nature of the findings before the research is complete.

3.3.5.3 Abductive reasoning

Deductive reasoning is often described as 'top-down', and inductive reasoning is described as 'bottom-up' (Dudovskiy, 2012). An abductive approach sits between these two ideas, combining deduction and induction. Saunders et al. (2016:154) argue that this is closer to what actually occurs during the research process, and that abduction begins with a 'surprising fact', then works out a plausible theory of how this could have happened. This theory could then uncover more 'surprising facts', which can occur at any point during the research process. Saunders et al. (2016) further argue that as abductive reasoning is flexible it could be aligned with a number of research

philosophies, but would likely be aligned with pragmatism, or critical realism which has a historical focus.

Dudovskiy (2012) argues that abduction has a focus on a best prediction, attempting to choose the best explanation among a list of alternatives. Besides, Isacsson et al. (2022:175) explain that “Unlike inductive and deductive reasoning, abductive research can explain, develop or change the theoretical framework before, during or after the research process”. The abductive process also moves back and forth between inductive and open-ended research settings to more hypothetical and deductive attempts to verify hypotheses (Dubois and Gadde, 2002).

3.2.6 Ethics

Ethics is defined by the ESRC (n.d.) as: “the moral principles and actions guiding and shaping research from its inception through to completion, the dissemination of findings and the archiving, future use, sharing and linking of data”. Initially, researchers would copy an ethical model close to those employed in medical research but this has since developed to include “consideration of benefits, risks and harms to all persons connected with and affected by the research and to the social responsibilities of researchers” (ESRC, n.d.). Ethical issues can arise from many different locations, such as research design, methodology, conduct, publication, and the archiving, future use, sharing and linkage of the data. Ethics is important to consider as failure to address its principles can cause “liabilities, reputational damage, negative public attitudes towards research and harm to participants’ and/or researchers’ health and wellbeing” (ESRC,

n.d.). The ESRC (n.d.) outlines three main ethical perspectives. Consequentialism is a " form of moral reasoning where the consequences of conduct frames ethical practice", where deontological ethics focuses on guided and rule-governed practice, and virtue ethics centres on context-dependent and universal concern for all aspects of a researcher's behaviour, with a need for "rigour in ethics reasoning with regard to the particular circumstances and phases of the research" (ESRC, n.d.).

Given the research methods employed through the research being undertaken, there are minimal ethical concerns. Secondary research focuses on collection and analysis of existing data, meaning there is minimal concern for ethical issues arising. Data of individuals is not considered, meaning risks relating to confidentiality, and research design, methodology, conduct, publication, and handling of data as outlined previously, are minimised. However, as explained by Tripathy (2013:1478), there are still potential issues with secondary research when considering ethics: "Concerns about secondary use of data mostly revolve around potential harm to individual subjects and issue of return for consent. Secondary data vary in terms of the amount of identifying information in it". In the present research, these potential issues have been considered and not identified as problematic.

Ethical approval for this PhD thesis has been granted by Manchester Metropolitan University's ethics committee (shown in appendix 3.1). No formal ethical assessment methods (consent forms, data protection information, etc) were generated as these were not required.

3.3 Research design approaches

Research design is the strategy embraced to combine the different elements of the study being undertaken in a coherent way, ensuring that all research questions are addressed, accounting for the collection, measurement, and analysis of data (De Vaus, 2001). Research design should be constructed in order to address the problem being examined. Five steps are suggested for a well-constructed research design: 1) identifying the problem to be explored clearly and to justify its selection; 2) review relevant literature previously published; 3) specify hypotheses or research questions; 4) describe information and data which is required and how this will be obtained; and 5) describe the methods of analysis to be applied (USC, 2022). Research design has three distinct approaches, or “modes of enquiry” (Kumar, 2019:39), namely qualitative, quantitative, or mixed methods.

3.3.1 Quantitative vs. qualitative approaches

The quantitative approach focuses on statistical, mathematical, or numerical analysis of data, using polls, questionnaires, surveys and more. This approach can also use numerical analysis of existing data. The focus is on accumulating data and generalising it, with the main objective of quantitative research being to determine a relationship between two variables in a population, and to classify features and create statistical analysis to facilitate explaining what is observed (Babbie, 2016). Qualitative research, on the other hand, emphasises the “value-laden nature of inquiry” and seeks answers to questions that stress social elements and inherent meaning, where quantitative analysis

focuses on variables and causal relationships (Denzin and Lincoln, 2018:10). Qualitative analysis also focuses on feelings, perceptions, and experiences. Qualitative research, according to Berg and Lune (2012) is naturalistic, studying real world situations as they unfold, with the researcher acting in a non-manipulative and non-controlling manner. Qualitative research also focuses on adaptation of inquiry as understanding emerges, avoiding rigid research design, and research is purposeful, offering insight about a phenomenon, rather than generalisations derived from a sample.

There are numerous significant strengths and weaknesses which will be acknowledged, addressed, and taken into account throughout the research process. A pragmatic, adjustable approach will be embraced, meaning there needs to be acknowledgment of the potential issues relating to both quantitative and qualitative approaches. Quantitative methods consider specific variables within the framework being created, looking for correlation and causality, while attempting to control the environment to avoid outside influences. This allows for a broader study, involving a greater number of subjects and enhancing any generalisations drawn, and approach also incites a higher degree of objectivity and accuracy (Singh, 2007). Well established methods and approaches means research can be replicated and analysed by other researchers and can be compared with similar studies. Larger sets of information can also be analysed, particularly compared to more qualitative approaches where one or a handful of cases is considered. Using recognised techniques also facilitates eliminating personal bias. This helps with keeping a level tone during analysis of esports during this thesis. Some

commercial research into esports is more optimistic than other types of research, particularly when it is published by an associated body (e.g., the British Esports Association) which has a vested interest in promoting esports and the industry generally.

Conversely, there are some acknowledged limitations with using quantitative research. Contextual detail is often missed, discovery can often be inflexible, and structural bias can also occur in the development of research questions and the methods used, where the data actually reflects the view of the researcher instead of the participating subject (Babbie, 2016). The results collected can sometimes be narrower and superficial, depending on how the researcher conducts the research, and particularly when compared to qualitative research there is “less detail on behaviour, attitudes, and motivation”, often due to quantitative approaches being more descriptive in nature, providing a less comprehensive narrative (Palmer, 2019:334).

These limitations are to be acknowledged and addressed where possible, and will be mitigated by embracing a mixed methods design. Using qualitative designs alongside quantitative will allow for more detailed narratives to be drawn. Qualitative research often suffers from the same issues with structural bias but being aware of this and being open with the research process will go some way towards accounting for this.

Qualitative research is often focused on providing a more accurate view of the real world, accounting for and recording nuances often missed by quantitative research. Marshall and Rossman (1989) suggest that this entails immersion in the everyday life of

the setting chosen for the study; the researcher enters the informants' world and through ongoing interaction, seeks the informants' perspectives and meanings, such as by partaking in action research, ethnographies or similar. This research will embrace elements of case study research, carefully analysing a specific topic in detail. Qualitative research is often more flexible, meaning a researcher will often develop their analysis and interpretation as the study is undertaken.

A good example of embracing a qualitative focus is that used in the case study of Overwatch (chapter 8), where a literature review identified a number of relevant factors in the area of esports and its associated business models, then analysis was undertaken by amalgamating the factors from previous literature. The research process evolved, first considering purely scientific, quantitative focussed literature, before identification of more qualitative, narrative sources adjusted the process used.

3.3.2 Mixed methods

Mixed methods select the best approach to answer the research question, in a pragmatic manner. A quantitative method tests theories by examining relationships among variables, which in turn are measured and analysed by numbered data (Creswell, 2014). Qualitative methods are concerned with how human behaviour can be explained, within the framework of the social structures in which that behaviour takes place (Austin and Sutton, 2014). In the case of the research being undertaken, using solely a quantitative or qualitative research design would not be suitable. There are elements difficult to define quantitatively, for example benefits of events, and there are

elements which are better suited to being quantitatively measured, such as costs. The different stages of the research being undertaken will take a pragmatic, flexible approach in order to best address the questions being asked at each point.

There are a number of different potential choices within a mixed methods approach. The purpose of the research, the research questions and the strengths and weaknesses in relation to the research being undertaken will all determine what type of mixed methods approach should be used. As explained by Creswell and Plano Clark (2017), there are four major mixed methods designs, namely, sequential explanatory, sequential exploratory, concurrent triangulation and concurrent nested.

Sequential explanatory is the collection and analysis of quantitative data, followed by the collection and analysis of qualitative data, with priority given to quantitative over qualitative data. This is used to help explain, interpret, or contextualise quantitative findings, and to examine unexpected results from a quantitative study (Creswell and Poth, 2018). The benefit of using this method is that it is easy to implement as it is split up easily, the design is easy to describe and the results easy to report, but it requires a substantial amount of time given the two separate sections.

An alternative to this is sequential exploratory (or exploratory sequential) design, which comprises of qualitative data collection and analysis followed by quantitative data collection and analysis, with qualitative analysis being seen as more important. This method is used to expand on qualitative findings, to test elements of evolving theories, and to generalise qualitative findings to different samples (Creswell and Plano Clark,

2017). This is again easy to implement with distinct stages, and results are also easy to report and design easy to describe. On the other hand, this may be time consuming, and analysis might be difficult to link between the two stages.

Concurrent triangulation is where both qualitative and quantitative methods are employed concurrently, with equal importance. This method is used to develop more complete understanding, or to corroborate findings, and provides “well validated and substantiated findings” and is likely to take less time due to studying both types at the same time, but it can be difficult to employ both methods at the same time, and analysis can be difficult to compare and integrate (Burns, 2009:136).

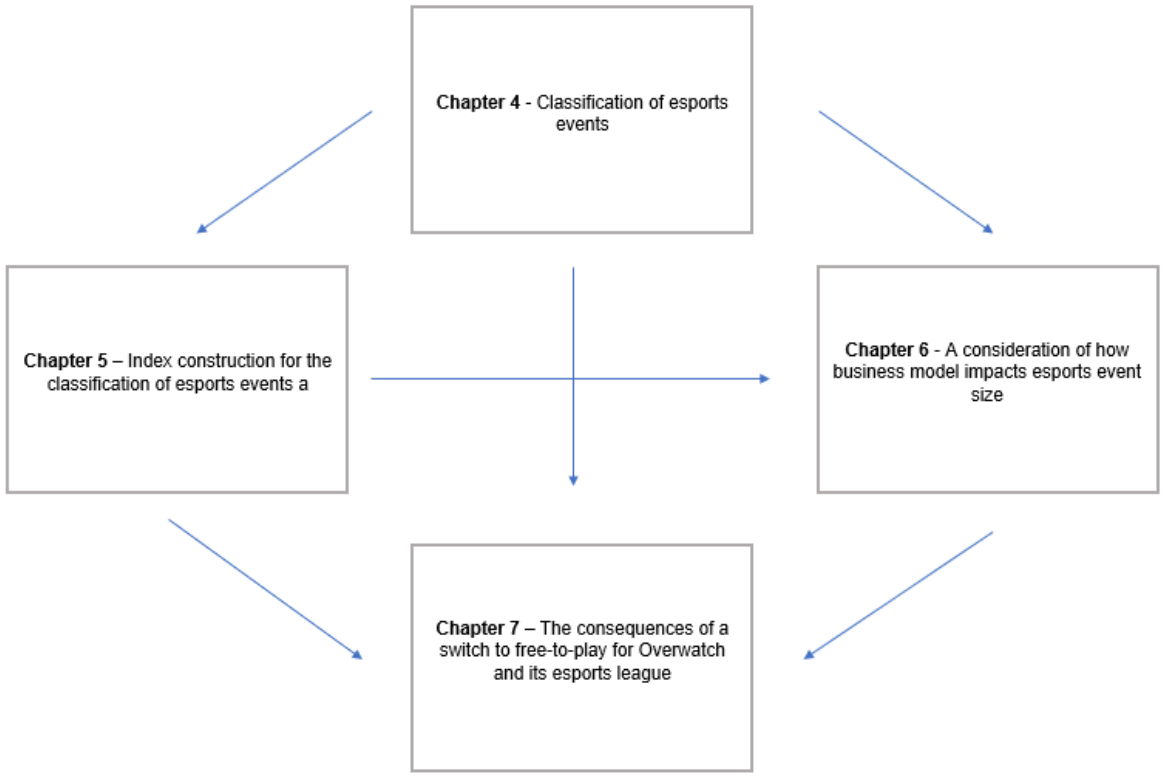
The final method, concurrent nested, focuses on one collection phase, “during which a predominant method (quantitative or qualitative) nests or embeds the other less priority method” (Creswell, 2014:197). This results in data being mixed, seeking information on two different levels. This has the advantage of two different data sources being collected simultaneously, and weaknesses of each method can be offset against each other, but data needs to be integrated which can be difficult and interpreting data between two contrary methods can be challenging.

A style of sequential research design will be employed, explained in depth within the context of each chapter later in this section. The main analysis sections of the thesis and the research to be undertaken embrace a sequential design, researching and exploring first definition and classification elements. Technical and quantitative analysis follows this in the form of composite indicator construction, then the ideas developed

around the classification created are explored versus the business model of each video game associated with the events classified. Finally, a case study exploring the video game Overwatch is undertaken, in the context of the previous findings. This process is outlined below in figure 3.2.

Figure 3.2

Analysis chapter links



Aramo-Immonen (2011:33) explains that in order to “gain a holistic view of the research domain it is necessary to use approaches that systematically explore the new avenues of research that methodological diversity affords”, and that methodological choices reflect differences in technique and views relating to epistemology. In this way, Denzin and Lincoln (2018:34) explain that triangulation is a vital part of the research process when engaging in mixed methods research:

1. *Data triangulation:* the use of a variety of data sources in a study
2. *Investigator triangulation:* the use of several different researchers or evaluators
3. *Theory triangulation:* the use of multiple perspectives to interpret a single set of data
4. *Methodological triangulation:* the use of multiple methods to study a single problem

This is the technique used, when engaging with mixed methods research, to ensure that the most appropriate approach is utilised. An example of this is the research considering the classification of esports events (chapter 4), where quantitative methods were embraced to consider, for example, the prize money associated with each specific event and how this had an effect on their size, or consideration of attendance, either online or in-person. An alternative to this was the approach used when considering *Overwatch* (chapter 7) and its potential transition to free-to-play, where a literature review was used to establish relevant pieces of research before these were used to develop a framework based on qualitative methods but utilising a quantitative approach for analysis of Overwatch and its potential transition to free-to-play. Data triangulation is

used across the individual elements of analysis (chapters 4, 5, 6 and 7) with various data sources embraced. Investigator triangulation is used in the classification of esports events with Müller's (2015) taxonomy for mega-events and Flyvbjerg (2014)'s sublimes, and with the case study of Overwatch, where Luton (2013), Massarczyk, Winzer and Bender (2019), and Seidl et al. (2018) are used in combination to analyse the potential switch to free-to-play.

There are some benefits and reasons for pursuing mixed methods approaches which are acknowledged in relevant literature. Jogulu and Pansiri (2011) outline how combining statistics and thematic approaches helps reduce overreliance on quantitative approaches, and also helps to capture softer approaches and experiences, with mixed methods making it possible to capture more subjective factors and examine complex social situations. Jogulu and Pansiri (2011) also explain how from a philosophical perspective mixed methods research allows for a combination of inductive and deductive reasoning, and as such enables researchers to conduct theory generation and hypothesis testing in one coherent process. Regnault et al. (2018:2) outline how mixed methods allow for research to be conducted from different perspectives, allowing the combination of the "rich, subjective insights on complex realities from qualitative inquiry, with the standardised, generalizable data generated through quantitative research". Regnault et al. (2018) also identify a key strength of mixed methods being that the qualitative aspect allows for accounting for lived experiences.

There are also accepted and acknowledged issues with mixed methods approaches. Regnault et al. (2018) suggest that meta-interference, where the quantitative and

qualitative approaches connect. This should be carefully considered, and researchers should be aware of this when interpreting results. Bryman (2012) proposes that in order for mixed methods research to be successful, alongside technically competent implementation of quantitative and qualitative methods, mixed methods research should be transparent, linked to the questions being examined, have a clear rationale, have an explicit design, and be clear on how the quantitative and qualitative elements are integrated. Malina et al. (2011) give an example of this, explaining that mixed methods require a higher degree of robustness, methodological rigour, and transparency. Finally, Malina et al. (2011) also outline how mixed methods have some debate around how or if quantitative and qualitative methods can be combined, highlighting that challenges stem from differences in the underlying ontological and epistemological positions of positivism and constructivism, and that some researchers would claim these are not compatible. Maxwell and Mittapalli (2010) highlight how critical realism, as an alternative to these two approaches, could be compatible with mixed methods approach, consistent with the idea that “all theories about the world are grounded in a particular perspective and worldview, and all knowledge is partial, incomplete, and fallible” (Regnault et al., 2018:3).

The main reason for the selection of mixed methods is its ability to mitigate the respective weaknesses of the two research methods. There are elements of the research area being studied which will not be suitable for analysis using either quantitative or qualitative methods and using a mixture will account for this. The classification of esports events, for example, requires a mix of approaches to ensure

that the seminal authors are addressed in order to develop the quantitative method used.

There are numerous other reasons to select a mixed methods design, as emphasised by Greene et al. (1989). These are outlined in table 3.1, which shows the reasoning for using a mixed method design and how this relates to the present research.

Table 3.1 represents a popular classification of purposes of mixed methods research that was first introduced in 1989 by Greene et al., based on an analysis of published mixed methods studies. This classification is still in use (Greene, 2007; Falchetta et al., 2022; Cameron et al., 2022). Greene et al. (1989) distinguished five purposes for mixing in mixed methods research, see table 3.1.

Table 3.1

Example reasoning for mixed methods research

Greene et al. (1989) purposes for using mixed methods	Example application to this thesis
1. Triangulation seeks convergence, corroboration, correspondence of results from different methods;	Chapter 4 using a qualitative approach to establish factors which influence the size of events, then chapter 5 uses quantitative method on the form of an index to corroborate and explore the results found.
2. Complementarity seeks elaboration, enhancement, illustration, clarification	Chapter 6 uses correlation analysis of the event sizes determined in chapter 4 to explore the interaction between event

of the results from one method with the results from the other method;	size and business model, then chapter 7 uses a qualitative, case study approach to explore this in more depth.
3. Development seeks to use the results from one method to help develop or inform the other method, where development is broadly construed to include sampling and implementation, as well as measurement decisions;	Chapter 5 uses and validates the results in chapter 4 to inform the methodology undertaken. Implementation is undertaken in the way it is based on the results found in chapter 4.
4. Initiation seeks the discovery of paradox and contradiction, new perspectives of frameworks, the recasting of questions or results from one method with questions or results from the other method;	Chapters 4 and 5 examine similar topics using different frameworks and from different perspectives, with chapter 5 using a more technical and analytical framework, and chapter 4 focusing on a qualitative methodology.
5. Expansion seeks to extend the breadth and range of inquiry by using different methods for different inquiry components.	This is true of all chapters throughout the thesis, with progression and expansion throughout the evolving research design.

Inspired by: Greene et al. (1989:259)

3.3.3 Primary vs. Secondary data

There are a number of reasons why primary data would be valuable in the consideration of esports events. A higher degree of insight into the experiences of those within esports can be drawn, and more precise data aligned closer to the research questions can be used, creating valuable data. However, with the study of esports events based on economic data (e.g., attendance, viewership, etc.), secondary data is already available to examine events which have taken place, with sources being reports, articles from sources like Esports Observer or Newzoo. Ultimately, the research questions did not necessitate or favour the collection of primary data, although chapter 4 could have

been informed by stakeholders in addition to the adaptation of Müller (2015) and Flyvbjerg (2014) to esports events.

3.3.3.1 Document analysis, inclusion and exclusion

The answering of the research questions in this thesis requires accessing information on esports events. This means examining documents, websites and online artefacts like marketing materials in order to develop a cross section of data on events. For example, MacLeod (2019) outlines the in-person attendance for the Fortnite World Cup 2019, esportsearnings (n.d.) provides the prize money, and examination of MacLeod (2019) and Stuart (2019) provide justification for the sublimes characteristics derived from Flyvbjerg (2014). These are judged to be included for analysis on the basis of the strength of each of the publishers.

This data, given the infancy of the research area, is not particularly organised or uniform. One of the most well-known and well-maintained sources of data is esportsearnings.com, and this was the first step for collecting the required data. Given this is a community-based website, caution was taken when gathering information on prize money. However, as stated on the ‘About Us’ page: “Every tournament page has a list of references that corroborates with the information shown on the page” (Esports Earnings, n.d.); this increases reliability. Ultimately, there is not much information available on esports, meaning what can be used is valuable, and as stated by Esports Earnings.com (n.d.) “It may be trivial to find information on a single tournament, but try doing this for thousands of them. It's very difficult. Player results are incomplete. Entire

tournaments and events are missing. Team rosters are still unknown. Some of this information is hiding in non-English websites. Finding and recording this history is esports mayhem".

The challenges posed by the current state of data on esports events are well-recognized. One key issue is the lack of a centralized and comprehensive data source, which makes it difficult to obtain a full and accurate picture of the esports landscape. In response, efforts have been made to ensure the completeness and reliability of the available data. To address this, missing information was gathered from multiple sources to ensure that all relevant data was included. Additionally, all data points were thoroughly verified for accuracy and consistency across various platforms. Any incomplete data or information lacking external corroboration was discarded to maintain the integrity of the dataset. Despite this, it is important to acknowledge that there may still be gaps in our understanding of esports events due to shortcomings of the available data. Future research should focus on developing more comprehensive and reliable sources of information to fully capture the evolving nature of esports and events.

3.3.3.2 Data collection and analysis

Information was retrieved from EsportsEarnings.com (n.d.) for the 50 largest events in terms of prize money at the time of writing. Other data for the elements identified was then collected from official event websites, such as Epic Games (2019). It is acknowledged that figures were collected from various non-academic sources which had varying degrees of uniformity to their data presentation. This type of data also has

some nuance to be made to be understood correctly, with viewership often being skewed heavily in specific regions such as StarCraft II being particularly popular in South Korea, with their own country specific tournament (O'Keefe, 2018). There are also differences in viewership based on the platform being viewed on, for example Overwatch esports has seen a significant decrease in viewership as a result of their switch from Twitch to YouTube (Steiner, 2020). This justifies why, once collected, data were organised, cleaned and structured for comparison, based on the four dimensions identified previously. Seven events were removed to the lack of data available, meaning that a sample of 43 events played between 2013 and 2020 has been used, with data widely available for most events.

3.4 Methods used throughout the thesis

3.4.1 Classification of esports events: Classification framework

Chapter 4 creates a framework to determine the size of esports events. This uses a mixed methods approach, first exploring using a thematic review approach by considering sporting events and more generally mega-projects, and the elements which determine their size, before using a quantitative approach to measure these elements. Secondary research is undertaken by amalgamating data from different sources including existing databases (such as esportsearnings.com), marketing materials from the esports events and records of broadcasts to account for (online) attendances. There

are several implications for the choices made in this research design. The method used measures elements which would be difficult to account for with any primary research, for example, conducting primary research to capture the number of attendees at an event would be impractical and difficult to manage. The process undertaken creates a unique model and framework intended to be built upon and expanded as esports evolves. Other research methods would not be suitable for this. The mixed approach used allows for the research question to be examined from different perspectives, in this case accounting for the established literature within sporting and mega-projects literature while also developing a quantitative model. This means that contextualised perspectives are included while also developing a framework which can be used in the future. There are some acknowledged issues with mixed methods approaches however, including needing a viable skill level across both quantitative and qualitative approaches (Regnault et al., 2018). There are also questions over whether certain ontological and epistemological positions are compatible with mixed methods, although the preferred pragmatic position for both makes this less of a concern (Regnault et al., 2018).

In order to create a framework for analysis of esports events, the four dimensions outlined by Müller (2015) along with the four sublimes highlighted by Flyvbjerg (2014) are considered in relation to esports broadly in an effort to develop a similar scoring system. The latter is then applied to a sample of esports events. Thus, a two-step methodology was applied: first, the development of a classification of esports events; second, its application to a sample of esports events, described at the end of this section. For the first step, each dimension and sublime provided by Müller (2015) and

Flyvbjerg (2014), respectively, are assessed against figures and characteristics specific to esports in order to evaluate their suitability for the latter and develop a rationale for the adaptations undertaken.

3.4.2 Index construction for the classification of esports events

Chapter 6 utilises a quantitative approach, based on chapter 5. The previous chapter develops a system of classification to determine the size of esports events using an approach inspired by previous literature, then boundaries and sizes are determined using an informed approach. Development of an index in chapter 6 utilises a more objective approach to determine the size numerically, then establish the size as either minor, major, mega or giga. An indicator in this case is a quantitative measure derived from a series of observed facts that can reveal the size of an event compared to the other events in the data set, with the additional intention of undertaking the same process at regular intervals to examine change across units and through time (OECD, 2008). This repetition of the indexing process is used in its normal context, usually to compare country-wide indicators, but works with examining esports events also. This aligns with the intention of this research as being a starting point of analysis. The development of this indicator has the added benefit of verifying and confirming the robustness of the model produced in chapter 5, which is examined in detail through analysis of which events are determined to be the same size and which are different between the classification developed in chapter 5 and the index developed in chapter 6.

One of the main reasons for developing an index is to study a variable, in this case the size of an esport event, that has no clear and unambiguous single indicators. This is clearly the case for esports events, with size being determined by a combination of complex and difficult to measure characteristics, with some ambiguous definitions (Babbie, 2013). Further, researchers may want to employ a refined measure of a variable with some organisation of these measures. As Babbie (2013:156) explains: “A single data item might not have enough categories to provide the desired range of variation. However, an index or scale formed from several items can provide the needed range”. Finally, indexes and scales are efficient methods of data analysis, the logic being that if one measure gives an approximate indication of a variable, several variables can give a more comprehensive and accurate measurement. Indexes allow the summarisation of several indicators with a single number being represented, with the possibility of covering all specific details of an indicator.

Babbie (2013) suggests four steps for constructing items for inclusion in an index. Items should be selected base on their “content validity, unidimensionality, the degree of specificity in which a dimension is to be measured, and their amount of variance” (Babbie, 2013:185). The process of using widely accepted academic papers and relating their measures to esports is supposed to ensure a high degree of content validity. Unidimensionality is defined by the APA (n.d.) as: “the quality of measuring a single construct, trait, or other attribute. For example, a unidimensional personality scale, attitude scale, or other scale would contain items related only to the respective concept of interest”. In their nature, each of the characteristics used only measures

what is being explored, for example in-person attendance has the aim of measuring how many people attend in-person so judge the physical, tangible impact of events which take place. The level of degree of specificity is similar, with no risk of false positives and measurement being accurate. Finally, the amount of variance needs to be "fair" enough, with the final scores distributed "fairly" evenly, although it is expected that in the case of esports events, there are more major events and fewer giga events than any others. Babbie (2013) also explains that items used to compile an index should be empirically related to each other, which is the second step in compiling an index. Internal consistency across the items selected for an index can be assessed through indicators such as Cronbach's alpha. Thirdly, index scores are developed, which is completed by determining score ranges and weights. Weighting, in the data used and index developed here, is considered but justification for valuing any of the four variables over another is not found. Score ranges are also created at this stage. The final stage is to test whether the index can predict indicators related to the measured variables but not used in the construction (Babbie, 2013).

The accepted source for the process for developing an index was developed by the OECD and the European Commission's Joint Research Centre in 2008. The handbook developed outlines ten steps for development of an index, this is the process that will be followed here. It is consistent with Babbie (2013), while being more detailed.

There are some acknowledged positives and benefits of using composite indicators. These types of measures are identified as being particularly useful for decision making and policy advocacy. As previously discussed, they have the added function of

providing ranking, and the nature of the figures generated means that they can be used to assess performance over time (Kararach et al., 2017). However, the construction relies on the component aspects being interpreted correctly, which requires a level of skill. The development of an indicator in this way is not intended to be used for the topic being considered either, usually used to create national indicators. Further, if difficult to measure elements are ignored intentionally or overlooked, the indicator is reduced in quality. Finally, construction requires some subjective selection, specifically when determining any weighting on variables, and when missing values are inputted (Kararach et al., 2017). This research avoids these potential pitfalls however, by not assigning values and weights.

The OECD (2008) method for constructing a composite indicator follows 10 clear and distinct steps. These steps are seen below in table 3.2. These steps are analysed in detail and applied to the size of esports events.

Table 3.2

10 steps for constructing a composite indicator (OECD, 2008)

Step	Description
1	Theoretical framework
2	Data selection
3	Imputation of missing data
4	Multivariate analysis
5	Normalisation

6	Weighting and aggregation
7	Uncertainty and sensitivity analysis
8	Back to the data
9	Links to other indicators
10	Visualisation of the results

3.4.2.1 Steps one, two and three: theoretical framework, data selection and missing data

The development of a theoretical framework is step one. This helps provide a basis for moving onto selection of data and building the rest of the indicator on. The OECD (2008) guidance suggests including experts and stakeholders' inputs at this stage; this is done via including established literature (an example of this is the inclusion of viewership), or through surveying the area and determining what is important to the events being held (for example, by including the prize money variable). This step is required to provide understanding of what is being measured, to structure any sub-groups of the data, and to list the criteria used for selection (OECD, 2008).

Step two is data selection, which the OECD (2008:15) states should be based on "analytical soundness, measurability, country coverage, and relevance of the indicators to the phenomenon being measured and relationship to each other". Any proxy measurements can be considered when data is scarce. This step is required to check

the quality of indicators used and this also facilitates the possibility of discussion of strengths and weaknesses.

The third step is to deal with any missing data by inputting data where it is missing. This step helps deal with missing values, but by following this process and including a level of transparency, this step also helps to assess the impact of any data inputted on the wider indicator. Further, this step could commence a discussion on outliers within the dataset.

The first three steps of this process have all been completed in chapter 5, with step one evolving with a detailed literature review and a survey of the area around esports events. Step two followed on from this, with identification of various sources to build a dataset undertaken, mostly focused on marketing material or community-focused measures. In step three, there were some notable issues such as the unavailability of data on some events when considering peak or unique viewers (also known as online attendance), so a remedy was needed. In this case, peak and unique viewer figures were combined and the higher score was adopted. This step did cause some discussion around anomalies also, with numerous events related to LoL having very high online attendance, and the game Dota 2 consistently having very high prize pools. This did not cause any concern for the validity of the model generated, however, as it did not skew the model.

3.4.2.2 Step four: multivariate analysis

Step four involves multivariate analysis, and step five normalisation. These steps were undertaken the opposite way round; they are interchangeable. Multivariate analysis includes studying the structure of the dataset and assessing its suitability, which then guides subsequent methodological choices. To undertake multivariate analysis, a test is undertaken to determine the Cronbach's alpha of the overall index, as well as what it would be when removing one measure used, to measure the internal consistency. Cronbach's alpha is considered as a measure of scale reliability, and in this case measures the internal consistency, or how closely related the set of items are as a group. It takes any value from 0 to 1. Cronbach's alpha is not a statistical test, but instead is a coefficient of reliability based on the correlation between individual indicators; therefore, if the correlation is high, then there is evidence that the individual indicators are measuring the same underlying construct, and a high Cronbach's alpha or equivalently a high "reliability", indicates that the individual indicators measure the latent phenomenon well (OECD, 2008). Based on a review of papers in leading science education journals, Taber (2018) identifies how reliable constructs were considered, based on their Cronbach's alpha, see figure 3.3. It can be considered that Cronbach's alpha needs to be at least 0.58 (the exact value used in text by Taber, 2018) to be deemed satisfactory.

Figure 3.3

Qualitative descriptors used for values/ranges of values of Cronbach's alpha reported in papers in leading science education journals (Taber, 2018: 1279)

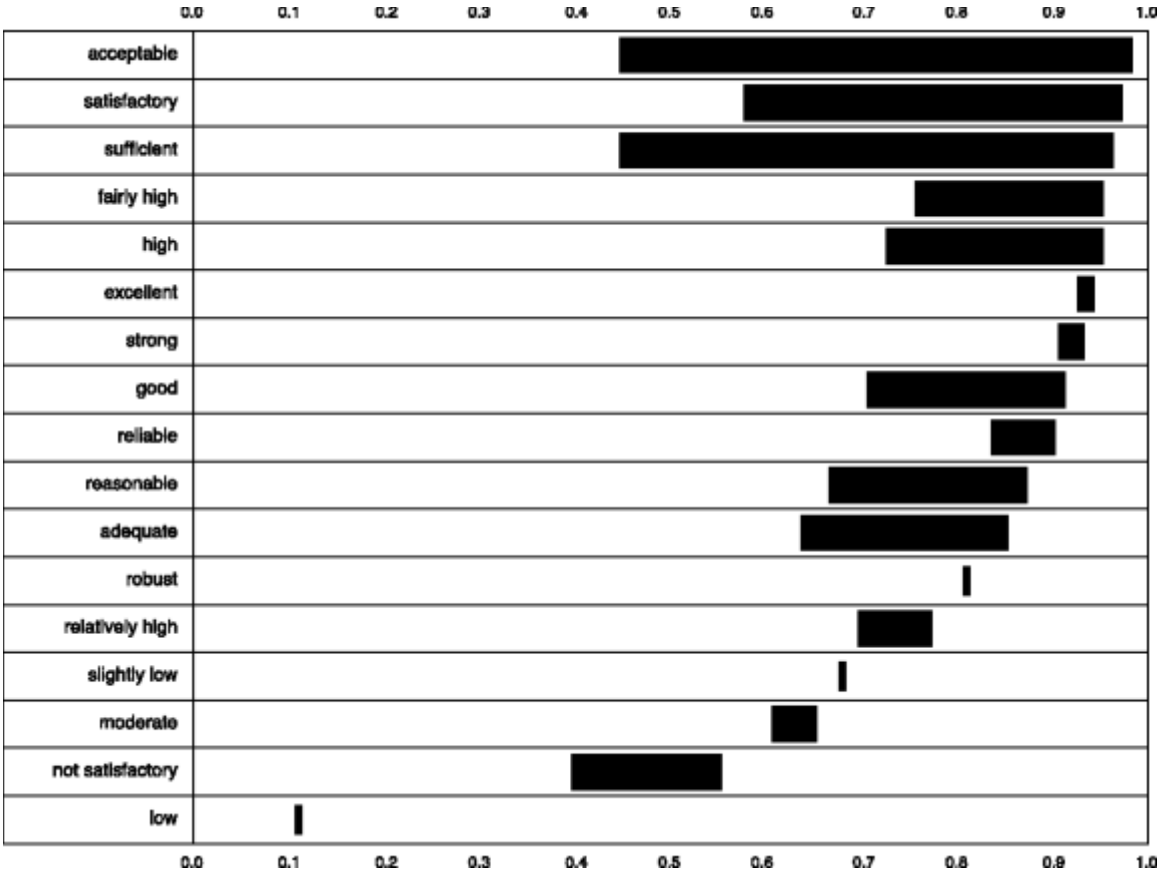


Table 3.3 provides the results in our case. In the dataset being considered, the overall Cronbach's alpha is 0.5822, i.e., it is just enough to be deemed satisfactory. However, a closer look at the contributions from the different components is needed to better understand where this overall score comes from.

Table 3.3

Cronbach's alpha of the overall index and each of its components

Item	Sign	Item-test correlation	Alpha
Online attendance	+	0.7707	0.3732

In-person attendance	+	0.8261	0.2832
Prize money	+	0.6239	0.5577
Sublimes	-	0.444	0.7152
Overall			0.5822

Of the four measures, Online attendance, in-person attendance, and prize money are positive, so contribute to the strength of the index. Sublimes, on the other hand, is negative, meaning it reduces the strength of the index. In other words, one of the characteristics, sublimes, causes a decrease in the consistency measured by Cronbach's alpha, and if sublimes is removed, Cronbach's alpha increases to a level of 0.7152. This is likely due to the characteristics being measured by sublimes being different to the other three, capturing relatively unique aspects of events which are not close to being measured by the other variables. Further, the sublimes component is measured in a different way, with political, aesthetic, and technological elements being captured, but this is considered on a case-by-case basis with no set structure or measure of these. This results in sublimes clearly needing further discussion for inclusion in the index. These sublimes were selected based on an often cited publication on megaprojects (i.e., Flyvbjerg, 2014), which anchors their usage in a theoretical basis. These elements capture elements missed by the other measures, which, while making them less suitable statistically, makes it more viable for real world usage and more wide ranging. Capturing these different and diverse measures is something deemed important given the importance not only of Müller (2015) but also Flyvbjerg (2014) when it comes to mega events and megaprojects, despite the

differences between both approaches. Besides, the measure of Cronbach's alpha being slightly above 0.58 means the index can be generated.

3.4.2.3 Step five: normalisation

Normalisation is the process of making the variables comparable. In this stage, the aim is to select a procedure that fits the data and theoretical framework, discuss any outliers, and undertake scale and skew adjustments (OECD, 2018). In this case, the data is standardised, which is where data are converted to a common scale with a mean of zero and a standard deviation of one (OECD, 2008).This helps account for variables with extreme values that would have a greater impact on the index. Data are also logged at this stage, to help deal with any skewed data, decreasing the variability of data and making the data conform more closely to a standard distribution (Taber, 2018).

3.4.2.4 Steps six to ten: weighting and aggregation, uncertainty and sensitivity analysis, back to the data, links to other indicators, and visualisation of the results

Step six involved introducing weighting to the variables used to construct an index to account for more or less important variables. In the dataset used, there is no justification for introducing weighting as nothing in academic or non-academic literature suggests that any variable is more or less important.

Step seven involves undertaking sensitivity analysis to assess the robustness of a composite indicator. This step is not undertaken as the index being developed is itself a robustness check for the classification developed in chapter 5. These can be compared to establish relative robustness rather than undertaking another test.

Step eight, which involves going back to the component parts of the composite indicator is similarly not followed, as an in-depth analysis has already been undertaken in chapter 5, where variables accepted as being measures of size in sporting events were translated to esports events. Step nine is similar, which suggests linking to other indicators and measures. While this is in the reverse order, links have already been established to influential indicators used to judge size in sporting events. Further, esports is in an evolutionary stage, even more so when it comes to events and measures around them. Any attempts to link to other indicators would be difficult as there are not many.

Step ten is around presentation and dissemination of the information developed. This is naturally important. In terms of the aims of the index developed, one of the key focuses was to judge the classification developed in chapter 5. This is undertaken in the following results section.

3.4.3 Regression analysis of video game business models

Chapter 6 relies on a quantitative approach, building on the previously developed framework to determine event size by exploring how the business model of these games interact with the size of the esports events they host. The regression run intends to explore the relationship between one dependent variable (event size) and a series of independent variables.

There are a number of potential models which could be used by video game companies and publishers. For example, a company could embrace a free-to-play system, which costs nothing for players initially but often offer players options for in-game items like characters or cosmetic items (Varghese, 2022). This strategy is often referred to as ‘freemium’, where the logic followed is that free apps or games are downloaded more than paid ones, and those players that like the free game they have downloaded might then purchase these optional add-ons, cosmetic or otherwise. These are often referred to as microtransactions. In 2019, Blizzard announced that microtransactions purchased through Overwatch have reached $1bn (Bailey, 2019) Examples of free-to-play or freemium games include Fortnite and Apex Legends. There are implications for embracing this type of model, for example, under a free-to-play system a game is often released with a lower number of features, often referred to as a ‘minimum viable product’, which is then judged through the reception gained by the users, before more content is added and the product is fine-tuned (Dillon and Cohen, 2013).

This minimum viable product normally could not be sold up front in a traditional business model, which is often referred to as buy-to-play. This is a conventional system where players would make an initial investment then expect to play without any further significant investment (Coldewey, 2019). Examples of buy-to-play games cover a wide variety of genres, such as FPS games like Overwatch and Call of Duty, sports simulations like FIFA, and more family-focused games published by Nintendo such as Mario Kart. The more orthodox, established form of this system is to make a single payment to receive the full game. A more contemporary extension to this model is the possibility of introducing downloadable content as an additional payment for an additional one-off fee, or the combining of the buy-to-play model with free-to-play style microtransactions.

Pay-to-play is the last of the popular business models used, often employed by massive multiplayer online (MMO) games, where a monthly or yearly subscription is paid to access a game which then updates its content periodically, although sometimes an initial purchase is required too (Asavei et al., 2016). This model is decreasing in popularity, with its peak being around 2010 where Blizzard estimated they had 12 million subscribers for World of Warcraft, which is the most popular P2P game. Since then, there has been a decline to 4.59m in 2022 (Statinvestor, n.d.). There has more recently been a rise in subscription-based platforms made up of other games in a Netflix-style system, which can be seen as an evolution of the P2P model. Examples include Xbox Game Pass, Apple Arcade and Sony PlayStation Now (Singer and D’Angelo, n.d.). While this type of model is contemporary and still evolving, it will not be

analysed here as each platform contains numerous titles that have associated esports. The Netflix-style model is unavoidable when considering videogames and their business models but does not represent a different style suitable for analysis here. This trend of publishing onto a wider platform represents one of the significant trends in videogames. Another significant trend is mobile gaming. Worth around $100bn in 2021, mobile gaming is predicted to be worth $272bn by 2030 (Rousseau, 2021). Esports specifically on mobile platforms have also seen some large growth. Examples of large mobile esports include Free Fire, Arena of Valour and PUBG (Player's Unknown Battlegrounds) mobile (Cooke, 2021). Mobile-only esports are accountable for over $19m in prize money, with the largest prize pool being the grand finale of PUBG mobile's esports season in 2021 (Esportsearnings, n.d.). This event handed out just under $3.5m in prize money, which is comparable to or larger than some of the largest conventional PC or console-based esports. This is important when considering business models as the majority of large mobile esports are F2P.

10 esports events which are associated with P2P games were added, which using the same method as developed in chapter 4, were classified in terms of their size. All of the four Runescape events added scored 0, where the WoW events scored 3 or 2 in each case, meaning all events associated with a P2P business model had a 'minor' classification. This is the case for a number of reasons. Firstly, the focus of these games is not typically on esports, they do not rely on competitive elements of their games, and as a result not as much attention is paid to the events that are hosted. Secondly, the model used for these events is disparate from a more traditional model,

even though in the case of WoW, the publisher (Activision-Blizzard) has pushed heavily commercialised and professionalised esports for games with smaller player bases like Overwatch and Call of Duty. As a result of less encouragement by the publisher, these MMO focused events tend to be community-funded and community-focused, with the exception being with WoW they often take place at larger, one-off events as a showcase of a game, such as the yearly BlizzCon events. Prize money, attendance online and the Flyvbjerg (2014) considerations are all also scored low for all of the P2P events.

The regression approach used here is relatively unique, using a quantitative approach by running a regression based on the classification developed in chapter 4, which utilises both qualitative and quantitative approaches. There are some advantages to utilising regression. One of the advantages is that relative importance of the predictor variables can be explored. Further, outliers and anomalies can be identified, so if something does not make sense in the regression being undertaken it can be examined in more depth (Weedmark, 2017). On the other hand, there are some accepted issues with regression. It is sometimes difficult to generalise based on regression, with specific methods being used which cannot be applied widely (Rotich, 2020). Sometimes the data used can result in incorrect conclusions being drawn, for example if the sample size is too small or if the data is skewed; outliers also cause issues with regression (Weedmark, 2017). It could be argued that in the example being considered (the size of esports events), using regression oversimplifies what is being explored by removing the context of the variables being considered. There are also implied issues when

determining the business model of each game. For example, CS: GO could be classed as B2P, F2P and P2P at different points in time, and some of the P2P video games have F2P elements also. How these potential issues are dealt with is discussed in more depth in chapter 7.

The analysis undertaken will be completed using the data previously compiled in chapters 4 and 5 for classifying the size of esports events. The rationale for using the same data in chapters 4, 5 and 6 is as follows. Chapters 4 and 5 build a size indicator based on different components, while chapter 6 focuses on the determinants of size, i.e., it aims to explain the differences in size between esports events based on potential explanatory variables. The determinants of size are different from the components: components are part of the phenomenon under investigation, determinants its causes. It would not make sense to collect further data rather than testing the determinants of size for the esports events for which size was already calculated. Not using the same data would require calculating further sizes, but in this case a legitimate question would be: why they would not have been included in chapters 4 and 5? Therefore, using the same data for building then explaining size is a natural and logical process.

Prior data used in the present analysis are the esports events scores developed, and the year the event took place, which was used to create an additional variable derived from the prior dataset titled ‘Edition’ which identifies multiple instances of the same events taking place over time within the dataset. For example, The International 2019 is given a value of 6 for the variable ‘Edition’ in the dataset as The International series of events takes place multiple times, and the 2019 edition was the sixth in the dataset.

3.4.4 Intrinsic case study & scoping review of Overwatch and its esport

The chapter examining Overwatch and the potential for a switch to F2P utilises a case study approach, undertaking a mixed methods approach to determine if the switch is worthwhile or not. The method employed is a combination of an intrinsic case study and a scoping review. Yin (2009:1211, 1994:13) describes a case study as follows: "The all-encompassing feature of a case study is its intense focus on a single phenomenon within its real-life context... [Case studies are] research situations where the number of variables of interest far outstrips the number of datapoints". This aligns with what is to be studied with Overwatch, that the adjustment of a business model is to be examined within the context of its esports ecosystem. More specifically, an intrinsic case study is used. This is where a unique phenomenon is to be learned about, and a researcher should seek to define the uniqueness of a phenomenon and distinguish it from others (Crowe et al., 2011). With an intrinsic case study, a case is selected on its own merits, because of its uniqueness, “which is of genuine interest to the researchers” (Crowe et al., 2011:5). This is true of Overwatch in this situation as it represents a unique situation; this will be examined in depth in chapter 7.

This idea of an intrinsic case study begins with a thematic review which is undertaken on Overwatch and on video game business models, identifying relevant research in the area. This is then explored in the context of Overwatch and its current system. Some of the literature selected has quantitative elements (Seidl et al., 2018; Massarczyk et al., 2019), which results in the mixed methods approach when these quantitative frameworks are used to evaluate Overwatch. It is acknowledged that this approach is

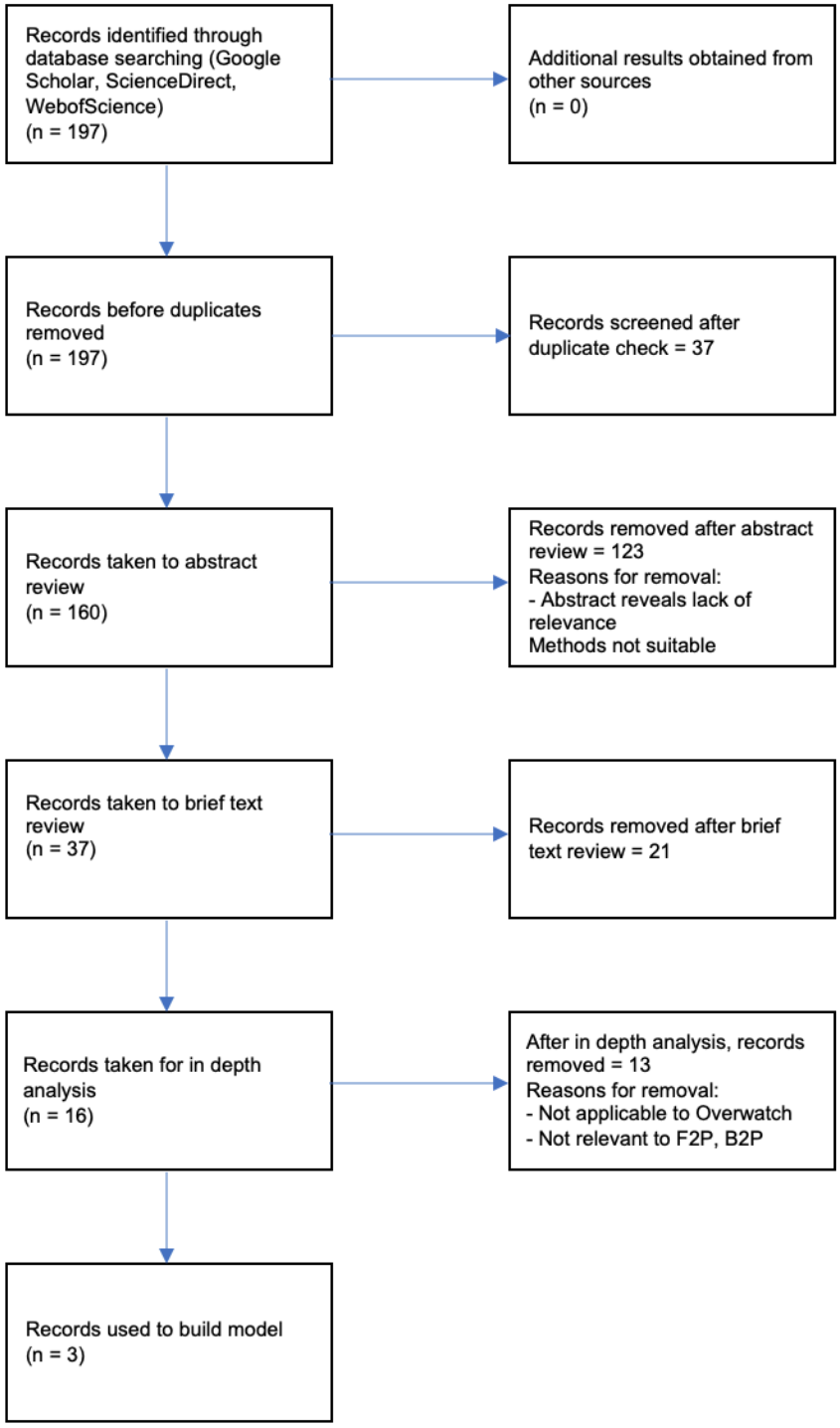
naturally subjective, with the choice of literature over any others naturally having some bias. This process is not really generalisable to other research either, with the focus on Overwatch reducing the level of generalisability, however, this is to be expected with the case study approach being used. More generally, a case study approach could be accused of lacking scientific rigour and lacking the ability to be applied to the wider population (McLeod, 2019). Case studies are also seen as being difficult to replicate, however, the process embraced where significant literature within the area is used to establish if a switch between business models could be used in the future through using the same literature to consider a different video game. Case study-focused research has some strengths, including providing more detailed and rich information on areas which are often not able to be studied using solely quantitative methods (McLeod, 2019). Also, this could provide further basis for further research. More specifically to this research, a case study approach helps to contextualise what has been studied in previous chapters and explore the implications and choices involved when a video game switches models. Once the indicators relevant to the analysis are identified from the thematic review, a mix of qualitative and quantitative assessment of their application to Overwatch is conducted in order to determine the relevance of a switch or not.

In order to assess the suitability and potential success of Overwatch transitioning to F2P, three prominent sources studying F2P systems are used to create the framework of analysis. These three sources are Massarczyk et al. (2019), Luton (2013) and Seidl et al. (2018). Their identification as suitable sources followed a precise search process in line with the expectations of a scoping review (Peters et al., 2020). The process for

creating a framework of analysis begun with Google Scholar, ScienceDirect and Web of Science, which were used to create a catalogue of relevant literature. The search terms used included *esports*, *esport*, *free-to-play*, *videogames* and *business model*, with Boolean searching employed (for example, "*videogames*" + "*business model*") to align with the scope of the review, i.e. the identification of literature informing about F2P in esports that can be applied to the specific case of Overwatch. Because esports are a recent topic, no restriction was set for the data range. A five-step process was followed to obtain the final results forming the basis to build the model used for analysis: initial search (1) removal of duplicates, (2) removal of records considered not appropriate based on the review of their abstract, (3) their brief review, (4) and finally their in-depth review (5). For steps 3 and 4, the criteria for removal were the content considered not relevant and / or the methods not suitable. For step 5, they were the content considered not relevant to Overwatch and / or F2P and / or B2P. Figure 3.4 displays the overall process, as well as the associated number of records for each step.

Figure 3.4

Process used, and associated number of records for each stage



The design of the framework used in the present study is necessitated by the area of research being relatively new, particularly when contemplating areas around esports. There seems to be a paucity of research investigating the switch between business models in esports. Consistent with this, the amount of literature produced as a result of searching was not extensive. This necessitated the model being limited to the three sources used, as they were among the limited number of sources at the time. The use of three separate sources is designed to incorporate different viewpoints and approaches to the analysis of F2P. The framework will be applied by considering each source individually before assessing whether a switch is well advised or not. Instead of describing the elements to consider here and eventually applying them to Overwatch in the results, both their description and application are managed in the latter section. This is to prevent redundancies between both sections, unavoidable if the application is separated from the description.

3.5 Conclusion

This methodology chapter intended to explore the methodological and philosophical choices undertaken in the thesis and in the following analysis chapters. The main focus is on being adaptable and flexible in the philosophy and practicalities of the research being completed. Alongside the focus on mixed methods and pragmatism is the embrace of post-disciplinarity, which as explained by Grix (2010:95) is where “no disciplinary boundaries are recognised, or transdisciplinarity, in which we all learn each other’s trade”. This research aims not to be restricted by researching esports from a

specific perspective. The key approach across the epistemological and ontological approaches is pragmatism and adapting to what is being explored in the relevant chapter. A range of methods are used, with mixed methods being the main tool employed. For example, chapters 6 and 7 use a quantitative method, while chapter 8 uses a qualitative approach. The methods used are outlined, with the evolution between the chapters explored and the advantages and disadvantages identified. These methods and the approach utilised help facilitate answering the research questions and the wider aim of the research.

4. Classification of esports events: comparison to sports mega-events, definition and sizes

4.1 Introduction

This chapter aims to define and classify esports events based on an adaptation of relevant indicators and size characteristics identified in previous literature on events and SMEs. In particular, the classification of SMEs presented by Müller (2015) is reviewed and utilised as a guiding framework in the current research. In addition, this research also relies on the classification of events by Flyvbjerg (2014) to inform a definition and a classification system for esports events. Although the environmental context of esports and sport events is dissimilar, the adaptations drawn in this article may also be relevant to SMEs and sports events in general. This is because these variations have some similarities with the digitalisation of sport leading to a shifting event/experience offering, which is now often not limited to physical engagement (Ke and Wagner, 2022). This suggests that looking at the size characteristics of SMEs can offer appropriate starting points to be adapted then to esports events.

Overall, this research helps advance knowledge about the growing esports industry. The classification developed in this thesis enables a discussion on how esports events should be positioned and managed. Furthermore, this study analyses and compares classifications of sports and esports events, thus contributing to the debate on whether esports should be considered as sports.

4.2 Towards the development of a classification of esports events

As mentioned in the methodology, each of the four mega-event dimensions and four mega-project sublimes provided by Müller (2015) and Flyvbjerg (2014), respectively, are assessed against figures and characteristics specific to esports in order to evaluate their suitability for the latter and develop a rationale for the adaptations undertaken. Table 4.1 summarises the modifications made to Müller (2015) and Flyvbjerg (2014)'s typologies. Further explanations are provided in the remainder of the section.

Table 4.1

Modifications to Müller (2015) and Flyvbjerg (2014)'s typologies

Element considered	Consideration and modification (if required)	Element used for esports
Müller (2015)		
Visitor attractiveness – Number of tickets sold	Kept with the acknowledgement that online attendance is likely to be larger than in-person attendance	In-person attendance
Mediated reach – Value of broadcast rights	Value of broadcast rights dropped, but online attendance is included as a measure of reach	Online attendance
Cost – Total cost	Cost figures for esports events are difficult to measure, so prize money is introduced as a proxy	Prize money
Transformation – Capital investment	There is minimal evidence for there being significant amounts of transformation as a result of esports events, so this is dropped	Not considered – Instead, Flyvbjerg (2014) sublimes (below) are considered
Flyvbjerg (2014)		
Political	Some examples are found where esports has an impact on politics, so political sublime is kept	Political
Technological	Esports events often use cutting edge technology, and are likely to have a significant technological impact, so this is maintained	Technological
Aesthetic	Aesthetic elements are included, with the understanding that	Aesthetic

	esports events may not display any aesthetic elements	
Economic	Economic elements are already captured within in-person attendance, so this is disregarded	Not considered

4.2.1 From visitor attractiveness…

Müller (2015) found that the number of ticket sales is the best proxy for attractiveness. This is despite shortcomings relating to individual visitors attending multiple events and an absence of primary surveys of attendance. This measure is slightly more difficult to account for in relation to esports events, as many are hosted online, and in-person attendance is sometimes low when compared to SMEs. It is also low in comparison to online viewership. One of the highest attended esports event in terms of in-person attendance was the Intel Extreme Masters Katowice 2017 with 127,000 people attending (de la Navarre, 2020), but when considering online 'attendance' the largest event was the LoL Mid-Season Invitational 2018, with 127m unique visitors (Esports Charts, 2022). This compares to in-person attendances of 2.9m for the 2018 FIFA World Cup, and 6.2m for the 2016 Summer Olympics (Transfermarkt, n.d.; Lange, 2020). While esports may not ever reach the same heights in terms of attendance, its popularity is increasing, but fans tend to engage in a different way, preferring online viewership over physical attendance. The nature of esports lends itself to large viewership of events that locally may not attract much support, and also encourages viewership from all over the world (Gough, 2021).

One issue which needs to be resolved is how to relate Müller (2015)'s stated characteristic of 'attractiveness' to esports. Physical attendance does not appear to act as a proxy for attractiveness in the same way as with SMEs due to the lack of connectivity between physical attendance and attractiveness. This is illustrated by the relatively small size of in-person attendance when compared to online attendance, particularly when considering the largest events. For example, the 2019 Fortnite World Cup had a physical attendance of approximately 23,700 but had an online viewership of over 2.3m (Epic Games, 2019; MacLeod, 2019). As a result, the closest alternative would be online attendance, which takes into account attractiveness from different locations rather than just the local area. This eliminates requiring estimates in relation to viewership outlined by Müller (2015) in the example given for the Olympics as viewership figures are often recorded and visible openly on platforms such as Twitch and YouTube. However, online attendance may also be considered as a proxy for mediated reach, the next dimension from Müller (2015). For this reason, it was decided not to disregard in-person attendance based on the sole consideration of visitor attractiveness but, instead, to assess whether to retain it or not after having considered mediated reach.

4.2.2 … and mediated reach to online and in-person attendance

Achieving a similar measurement to mediated reach, as outlined by Müller (2015), for esports could be challenging. Müller (2015) suggests using broadcast rights values as a

proxy for reach, which could be a possibility for esports. Spending on esports broadcasting rights is forecasted to reach $400m in 2021, up from $100m in 2018 (Pannekeet, 2018), representing a large increase in a short time period. Broadcasting rights are also forecasted to grow from 18% to 24% of esports revenues from 2018 to 2021, representing “the fastest-growing revenue stream in the esports ecosystem” (Pannekeet, 2018).

One of the largest deals in esports was the $90m paid by Twitch for the first two years of Overwatch League rights (Fischer, 2018). Despite such growth, this remains a comparably much lower sum than that generated by conventional sports, such as the $7bn gained for the broadcasting rights for three years of the English Premier League in men’s football (Bassam, 2021). Besides, there could be a problem with using broadcast rights to analyse the mediated reach of esports. For instance, it could be argued that a league, covering 29 weeks, is not an ‘event’, in the same way that a football league would not be classified as an event. Furthermore, when considering shorter-term competitions that better fit the definition of an event, broadcast deals for esports are not often publicised in detail. The same issue can be said of sponsorship values, which could be considered as another potential proxy for mediated reach. Sponsorship values are more widely reported than broadcast rights but have a similar problem in that details are not often reported in full, and a specific team sponsor does not cover the mediated reach of an entire event. A clear example of this is the reported $25m cost of sponsoring a team in the Call of Duty league; this cost is not explicitly confirmed and covers at least six months of games (Hume, 2019).

Player numbers were considered as an alternative to broadcast rights. This was due to their ability to capture popularity, with the platform Steam capturing how many players are currently playing the top 100 most popular games. This is also a good measure of popularity over time, with the number of players taking into account numerous factors including popularity of competing games and increased popularity as a result of an event taking place. However, there is a lack of connectivity between player numbers and individual events, with a lack of evidence that player numbers are connected to event viewership or the reach of a specific event. There would also have been an overlap between viewership (already suggested for visitor attractiveness) and player numbers, that would have been used as a proxy of viewership for mediated reach. In the end, it was decided to retain both online and in-person attendance to capture both visitor attractiveness and mediated reach.

4.2.3 From cost to prize money

As part of his classification system, Müller (2015) outlines the cost of hosting events as one of the dimensions as part of his classification system, with examples given of the Olympics, Pan American games and World Expo. Yet, no specific proxy is used to account for this factor. Aziz (2014) provides an insightful case study around the costs of hosting an esports event for a smaller games' developer. The overall cost was reported to be $67,443, with 52% paid directly by the developer and the remaining amount paid by sponsors and individual contributions. This is a low amount in comparison to larger events. However, these refer to a relatively small developer and event. The event was

also hosted in 2014, and with the exponential growth of esports insights could be outdated by now. This event is something of an anomaly with costs detailed in full, with the cost of hosting specific other events difficult to ascertain due to restricted levels of publication of costs. McCarthy (2019) outlines the reasoning for hosting esports events. Cost often increases in scale alongside the number of attendees and the general size of the event. However, events are often scheduled alongside conventions, can include online-only qualification elements, and sometimes feature longer-term schedules, all of which complicate any attempt to measure costs in relation to esports events. Looking at cost overall can be disregarded due to the issues mentioned relating to the unavailability of widespread cost figures. Furthermore, the rise of online-only large-scale events makes measurement even more difficult due to associated costs being negligible, with required infrastructure already existing.

Analysing prize money as an alternative to cost is worth considering. When Müller (2015) includes cost in his classification, he attempts to gauge the size of events by measuring the differences between nominal associated costs across events. In this way, prize money could be seen as a transparent and easily obtainable alternative. As the size and scope of events increase, prize money tends to increase. Data are also widely available, which could be due to the willingness to advertise the size of winnings of events. An example is the promotion relating to the Fortnite World Cup and the potential to claim a share of the $30m handed out (Epic Games, 2019). The actual cost of an event and the price of hosting seems marginal, particularly in comparison to the budgets of large companies that run the events. For example, the largest prize pool of

the largest esports event was over $34m (EsportsEarnings.com, n.d.), with the cost of hiring a venue small in comparison.

4.2.4 From transformative impact…

Müller (2015) outlines ‘urban transformation’ as one of the key measures of classification. Most events are used strategically to push renewal of host cities or countries, aiming to develop urban renewal through capital that would otherwise not be available (Grix, 2013). Müller (2015:633) explains that governing bodies encourage investment via emphasizing legacy as an important factor, i.e. “long-lasting transformative impacts on the urban and regional fabric that justify the high outlays for mega-events”. However, the counterpoint is also made that legacy is not always positive, “displacement of people, gentrification, the commercialisation of public space or environmental damage”. The method of measurement outlined for urban transformation is to look at the share of capital investment in total cost. Examples given include 97% for the Olympic Games in Tokyo in 1964 and 50% for Los Angeles 1984 (Müller, 2015). Examples are also given of 94% for Guangzhou for the 2010 Asian Games, undertaking wholesale urban restructuring and redevelopment (Shin, 2014), and Euro 2012 which was used to modernise highways in Poland. However, using this measure presents some limitations. In most cases, no plausible explanations are given for how this share is specifically invested, only that it covers infrastructure and construction but not operating costs. Furthermore, lesser developed countries have a proportionately large share of capital investment in total cost. This may not necessarily

hold true for esports events, particularly as esports are typically held in smaller cities, in pre-built arenas, with an example being the 2019 Fortnite World Cup which took place in the Arthur Ashe Tennis Stadium in New York (Stuart, 2019). The above elements support the idea of dropping transformative impact as a measure when it comes to develop a classification of esports events. As an alternative, it was considered Flyvbjerg (2014:6)'s four criteria or 'sublimes' for measuring the size and frequency of megaprojects, namely "political, economic, technological, aesthetic".

4.2.5 … to political…

It could be expected that the political contribution of esports may be marginal. Flyvbjerg (2014) focuses more on the satisfaction politicians would get from hosting of events, and when esports events are comparatively much smaller than SMEs, there may be a less significant level of political impact. However, there are a few crucial examples of esports and politics overlapping to provide impact in political spheres. Yu (2018) explains that China sees the digital economy as key to restructuring its economy from a low-wage model to one focused on innovation. Among the key targets are ecommerce, literature and esports. The example of China illustrates how esports can have political impacts, fuelling a change in their economy and developing relations with (South) Korea, such as the collaboration in the effort to have esports included in the 2022 Asian games (Yu, 2018). Furthermore, Ashton (2019) outlines how esports and politics are linked. The example given is that in Malaysia, the government has committed $2.5m to esports, and in China the city of Hangzhou intends to invest up to $1.26b in 14

individual projects by 2022. Ashton (2019) makes the point that esports are influential within politics for other reasons, including Korean esports professionals potentially being exempt from conscription by 2022. Visas and taxes are also being introduced and changed to accommodate for the increased impact of esports.

Other regional variations are evident, with esports being much more popular, and as a result, influential in some areas. For example, the esports market in China is estimated to generate $360m, whereas the US generates $243m, and Western Europe $205m (Gough, 2022a). This affects the importance of esports as perceived by different governments. Finally, Ashton (2019) points out that esports-specific venues are seeing increased popularity, with the example given being the esports stadium in Arlington, Texas, which cost the city $10m to build. This shows how political institutions are changing their opinions on esports. Thus, the political dimension is worth considering when classifying esports events. This can be identified through the hosting of comparatively big events by small cities (see appendix 4.1), as a political decision to raise international awareness of the city, comparable to what exists for example in cycling in the men's Tour de France (Varnajot, 2020).

4.2.6 … technological…

Flyvbjerg (2014) explains that this is about pushing the boundaries of what is possible and developing cutting edge technology. Esports events have an obvious technological impact since they are closely associated with utilising the latest technology. Hall (2020) projects that esports growth is dependent on accessible internet access and mobile-

focused games. This sentiment is echoed by Ayles (2019), who highlights that the potential for cheaper virtual reality headsets could be a major steppingstone in the development of esports and how it connects with audiences. Furthermore, more traditional first-person shooter games can have technological impacts beyond what would be expected. Valorant, one of the most followed first-person shooter games, introduced a revolutionary system based on predicting player movements and reducing the differences in what each player sees in order to create as fair a system as possible. This is a positive example of Flyvbjerg's 'longest-tallest-fastest' concept related to technological sublimes, with the effort to make a game as equal and as advanced as possible (deWet, 2020). More generally, esports and games are at the forefront of many technological innovations, with particular regard to immersive technologies like virtual and augmented reality (Fleming, 2020).

4.2.7 … aesthetic…

There appears to be minimal congruence between the idea of aesthetic outlined by Flyvbjerg (2014) and esports events. Flyvbjerg (2014:8) defines aesthetic elements as "the pleasure designers and people who love good design get from building and using something very large that is also iconic and beautiful, such as the Golden Gate Bridge". Locations such as arenas are rarely built for esports specific events, are normally already constructed and are usually linked to another sport or purpose. Aesthetic elements will be considered, for example, whether an event is the first of its kind, but the expectation is that there will not be widespread aesthetic elements within esports due to

the arenas not being built specifically for this activity or chosen primarily for their aesthetic dimension.

4.2.8 … but not economic

When considering economic impact, Flyvbjerg (2014) focuses on money being made by individuals such as engineers, architects and lawyers involved with projects, but the economic impact is also worth considering on a macro level. Esports has the potential to have a large economic impact in a host city. The esports economy is predicted to be worth over $1.5bn by 2023 (Reyes, 2019). Lokhman et al. (2018) explain that tournaments and events are the most lucrative aspects of esports, with the most significant revenue streams including sponsorships, state funding and broadcast rights. One of the key elements also worth considering when establishing the economic impact of esports is that it encourages tourism and visitation from other areas. Peacock (2019) outlines that over 70% of attendees of some esports events attend from out-of-state or country. This shows how esports events can have an impact on local economies as a result of increased tourism.

On the other hand, the economic impact is in part captured and contained within measurement of in-person attendance since this includes visitors from outside the territory. Considering specific economic impacts may be counterproductive when in-person attendance will measure some similar impacts, with the possibility that economic impacts correspond to a given multiplier of in-person attendance, under the

assumptions that the visitor rate and the economic impact per visitor are similar across esports events. The limitations related to these assumptions are discussed later.

4.3 Definition and size determinants

As highlighted previously, esports events present smaller figures compared to SMEs in terms of visitors / in-person attendance, broadcasting rights, cost and transformation. Using Müller (2015)'s scoring matrix as a basis and complementing it with Flyvbjerg (2014)'s sublimes, four elements have been outlined which relate more closely to esports events; three inspired by Müller (2015), one from Flyvberg (2014)'s four sublimes. Based on these elements, esports events are defined as esports competitions of a fixed duration that can be classified as minor, major, mega or giga events, depending on their levels of online attendance, in-person attendance (if any), prize money, as well as political, technological and aesthetic impacts.

As outlined in the literature review chapter, chapter 2, Müller (2015) determined that for an event to be as major, it must feature an 'L' size in one dimension, in order to be mega it must feature two 'L' dimensions and to be a giga event it must feature three 'L'. There appears to be little logic or theory behind this, so for the purposes of this study and the modified classification categories, this has been disregarded. This serves the purpose of allowing for size to be judged more evenly, not preventing an event being classified as a larger event due to it being lower in one or more categories. Removing this caveat increases the probability that the framework is seen as valid and reliable by

the stakeholders likely to use and / or assess it by offering a more accurate and flexible classification system.

In each case, a size determinant was sorted and analysed, with the standard deviation considered, before boundaries were set for the points attributed to each determinant. This process takes direct inspiration from the method undertaken by Müller (2015), with boundaries set relatively arbitrarily but justified by considering the spread of each determinant. How each category was determined in terms of size is shown in Table 4.2.

Table 4.2

Size determinants for esports events

Attendance online		Attendance (in-person)	Prize money	Sublimes (political, technological and / or aesthetic impacts)	Score	Classification	Required points
Unique viewers	**Peak viewers**						
0 - 3m	0 - 1m	0 - 1k	0 - 1m	None of the three impacts	0	Minor	1-3
3m - 6m	1m - 2m	1k - 10k	1m - 3m	One of the three impacts	1	Major	4-6
6m - 35m	2m - 10m	10k - 30k	3m - 10m	Two of the three impacts	2	Mega	7-9
35m+	10m+	30k +	10m +	All three impacts	3	Giga	10+

There were some anomalies in the dataset which needed addressing. For example, the peak viewers category had some events with much higher figures than the rest. Due to this, both unique and peak viewers were considered for online attendance where possible in order to check consistency between both values across events. Figures for peak viewers were more widely usable, but not available for all events. This resulted in unique viewers being used as a criterion in the rare cases where peak viewers were not available.

4.4 Application of the newly suggested classification of esports events

The 43 esports events analysed were classified as a result of the data seen in appendix 4.1. The full classification is available in appendix 4.2, with selected examples representing the different sizes in Table 4.3.

Table 4.3

Cross section of final event sizes

Event	Year	Game	Location	Attendance (Online)	Attendance (In-person)	Prize money	Flyvbjerg sublimes (total)	Total	Class
Halo World Championship 2016	2016	Halo 5: Guardians	LA	1	0	2	0	3	Minor
PUBG World Championship 2019	2019	PUBG	Oakland	1	0	3	0	4	Major
League of Legends World Championship 2013	2013	LoL	LA	2	2	2	0	6	Major
Overwatch League Finals 2019	2019	Overwatch	Philadelphia	2	2	3	0	7	Mega
League of Legends World Championship 2018	2018	LoL	Seoul/Busan /Gwangju/Incheon	3	3	3	0	9	Mega
Fortnite World Cup 2019	2019	Fortnite	New York	3	2	3	2	10	Giga

Table 4.4 provides the descriptive statistics and correlations between variables. Correlations were calculated to better understand the relationship between the different variables and ensure they are not too strongly correlated, i.e., they are distinctive enough. Table 4.4 shows that the sublimes have a lower score than, and are not correlated with the other variables (positively correlated between each other and the final score) and the final score. Nevertheless, they still make a difference on the classification of some events.

Table 4.4

Descriptive statistics and correlations

Variable	Mean	Standard deviation	Correlations				
			Attendance online	Attendance in-person	Prize money	Sublimes	Final score
Attendance online	1.81	1.30		0.57***	0.35**	-0.17	0.78***
Attendance in-person	1.30	1.05			0.27*	-0.22	0.74***
Prize money	1.88	1.20				-0.15	0.72***
Sublimes	0.42	0.66					0.04
Final score	5.42	2.43					

Note. data based on scores and not raw numbers; *, ** and *** for significant at the 10%, 5% and 1% levels, respectively.

Of the 43 esports events analysed, only 1 can be considered as giga, 16 are mega, 15 are major and 11 are minor. Games that have more regular events tend to have a larger number of smaller events (minor or major). However, a pattern emerges and shows that most games have a ‘World Championship’ or similar that is the flagship of a given season. In every case, this event is the largest of any given year. Another significant influence on the final classification system is the anomaly that exists around Dota 2 and prize money. Logic would dictate that more popular games would generate larger prize pools, but Dota 2 accounted for 4 of the top 5 events in the data set in terms of prize money, while being around or below average in attendance (in-person and peak). This is due to the relevant events featuring a system where exclusive cosmetic items are purchased in-game and directly contribute to prize pools (Van Allen, 2017). This is significant as the only other event scoring a four on prize money was the Fortnite World Cup 2019. Fortnite also represents a significant trend, with two of the three online-only events to feature, both of which were classified as major events. The aforementioned Fortnite World Cup 2019 is also classified as the largest event in the dataset, fuelled by large viewership, the second largest prize pool in esports history when solo and duo events are combined (EsportsEarnings.com, n.d.) and strong in-person attendance. Given the current unpredictable nature in relation to Covid-19, online-only events may rise in popularity.

It is also worth noting that, within the dataset used, growth can be observed. The season-ending League of Legends World Championship, for example, has seen in-person attendance grow from 18,188 in 2013 to 91,000 in 2017 and peak viewers

growing from 2.7m in 2014 to 44m in 2018. The largest prize money figures in the dataset are all from recent years, with The International 2019 having the largest prize pool of $34.4m, compared to ESL One in 2015 which had a prize pool of $250,000.

4.5 Discussion and conclusion

4.5.1 Implications

The classification of esports events developed in this chapter offers a similar level of face validity to Müller (2015)'s scoring system, providing a potentially useful tool for distinguishing and differentiating. Besides, the classification has some implications for stakeholders within the esports industry. In particular, it provides managers and organisers of larger events the possibility to convey their size as a communication tool, and those of smaller events the possibility of identifying the areas to grow to become larger. The present research opens the door to benchmarking in order to understand best practices (e.g. how have larger esports events reached their size?), assess their replicability for a different esports event (e.g. can I apply the same strategy to the event I manage?), and identify unexplored directions (e.g. what has not been applied to esports events yet?). Industry experts can easily apply the scoring system due to the transparency and clarity of the criteria used. The research is also valuable for policymakers going forward, for example to inform and facilitate government programmes and to direct investment. As previously outlined by Ashton (2019), esports is being seen as increasingly more important by governments at a national and local level; esports events are a significant aspect of this. One example is the city of

Katowice, that has embraced the title of “esports capital” (Kornaszewski, n.d.), despite not being a large city. This type of city is unlikely to attract SMEs, so appealing to esports events is a commendable strategy worth considering. Three of the largest events in the dataset were hosted in smaller cities such as Katowice. Similarly, Peng et al. (2020) explain how in China esports is recognised as a sport, and esports players are recognised as athletes. The government also directly governs the esports industry, which signifies a difference to other countries. France also has similar but less extensive government involvement, with regulations on contracts and a minimum age. Beyond the esports industry, the present research can also inspire the classification of other types of events that are online or hybrid.

The findings of this chapter also contribute to theory. The classification of esports events fills a gap in the literature on esports and can inspire the classification of other events in a context of growing digitalisation in different sectors, including the sport industry. In relation to the debate about whether esports are sports, the study provides elements contrasting with this view due to esports events being far below SMEs in terms of visitors / in-person attendance, broadcasting rights, cost and transformation. Yet, the growth of esports events might be, to some extent, at the expense of SMEs in the future, levelling the gap between both types of events and leading SMEs to get inspiration from esports events, e.g. from a technological perspective.

As explained by Zhou et al. (2017), “Theoretical contribution is a process which is based on the theory development and advancement in existing theory with some logics and fact”. This then divided into originality and utility, with originality explaining how new

variables interact with existing ones or how they will form new information, and utility explaining how contributions can be applied to organisations or society (Zhou et al., 2017).

There are a number of ways which this chapter, in partnership with the index developed in chapter 5, contribute to theory. The construction of a framework for determining the size of esports events allows for easier comparison with the size of sporting events. As esports continue to grow in popularity, interest in comparison with sports has also increased (Parry, 2018; Tassi, 2014; Steinberg, 2018). This allows for insight into the similarities, differences and scales of the two. Understanding fan behaviour is something often examined in sports, and considering the size of esports events can draw similar insights. Esports events are drawing larger numbers of fans, and by providing a framework for examining the size of esports events chapter 4 can help draw deeper insight, such as identifying demographics of esports fans and identifying trends in popularity. By tracking the size of these events, researchers can also track how much of an impact esports events have on the wider esports industry.

Helping to understand the development of esports over the course of time is another contribution made by chapter 4, providing insight into the growth and development of esports as a phenomenon. Popularities of games, genres, esports, and viewing habits can all be tracked. As well as understanding how the size of events has changed over time, insight can be drawn into how the size of events associates with, for example, prize pools more widely, and future research could focus on aspects like sponsorship, and in the future media coverage could be considered.

Overall, determining the size of an esports event can provide valuable information that can be used to develop theoretical understanding and deepen our knowledge of esports as a swiftly growing industry.

4.5.2 Limitations and future research

One of the key findings is that even the smaller events classified attract a large number of viewers, attendance and publicity. However, some of the smaller events have had a lack of attention to detail in terms of recording data such as viewership and player count. A stringent effort should be made to keep a record of and capture this data, particularly in a time when esports are being treated more seriously by a wider section of the population. Future research could focus on developing a standard for embracing key statistics in relation to esports events, based on the scoring system developed in this chapter.

Another direction is how the present chapter about esports events informed by Müller (2015)'s classification of SMEs could, in return, inform future research on SMEs. In a context where technology is increasingly important in sport, a trend exacerbated by Covid-19 and the subsequent restrictions on outdoor physical activity and stadium attendance, reconsidering the classification of SMEs based on the insights developed in this chapter may prove fruitful.

It is acknowledged that the scoring system developed in this chapter has some limitations. Due to the lack of available data for online attendance, two measures have had to be used, namely 'peak viewers' and 'unique visitors', the latter less widely

available and being used where peak viewers were not available. Generalising the use of unique visitors would be more representative of the sustained online attendance for esports events and solve the anomaly of events with peak viewers much higher than the rest. If data for unique visitors become more widely available, it will be possible to primarily use them instead of the data for peak viewers and assess whether it makes any difference on the classification made in the present research.

The method has an inherent level of subjectivity, through the selection of variables, and through the boundaries set and assigned to each score. One limitation that could be suggested, drawn from the following chapter is the lack of weight assigned to variables. Müller (2015)'s original work did not assign weights to any of the measures used to establish size, and this was drawn forward, but could have been used to increase the accuracy of measurement.

The model could be improved with data being more readily available. There has been an improvement in data availability across the range of events in the dataset, with the later events having much more reliable data. Furthermore, there will need to be a form of scale or adjustment implemented in the model to ensure that the classification is accurate as more recent events tend to have larger scores. Implementing a standardisation process in future research would ensure that the model remains relevant and useful.

5. Index construction for the classification of esports events

5.1 Introduction

The development of a classification in chapter 5 aims to determine the size of esports events based on the characteristics outlined. As an extension to this, an index is established to further explore the data set and to provide a ranking of the events based on these characteristics, and to check the robustness of the initial classification. While the initial aim of the creation of the dataset developed was not to produce an index, it is appropriate to do so. Indexes are a compound measure that aggregates multiple indicators, and summarize and rank specific observations (Babbie, 2013). For the research being considered here, the multiple indicators are in-person attendance, online attendance, prize money, and an amalgamation of political, technological and aesthetic elements. These elements of esports event size are informed by acknowledged and accepted factors that determine size in traditional events, and adjusted to be suitable, as per chapter 5.

5.2 Pros and cons of an index (OECD, 2008)

One of the original uses of the indexing process developed by the OECD was, for example, comparing country performance to develop a tool for use in policy analysis and public communication (OECD, 2008). This type of measure is growing in popularity for its ability to simplify complex and difficult to capture measures into a single variable. A good example of this is well-being, which is multifaceted and without effort to simplify

the measures used would require a wide range of numbers to account for the multidimensionality. By introducing a composite measure like an index, it is possible to widen the range of indicators to encompass all the required information for something which is multidimensional in nature (Greco et al., 2016). This type of indicator is defined by Freudenberg (2003:5) as “synthetic indices of multiple individual indicators”, which are in the case of the dataset being considered online attendance, in-person attendance, prize money, and the sublimes outlined by Flyvjberg (2014) but applied to esports. This type of measure is increasing in popularity and in usage, from less than 50 uses in academic writing in 1997 to almost 500 in 2015 and approaching 600 in 2016 (Greco et al., 2019). This has come alongside an increase in usage by institutions like the European Union (EU), the World Bank and similar, while also capturing the attention of the media and policymakers (Saltelli, 2006). The accepted document outlining the process by the OECD (2008) suggests some strengths and weaknesses of the indexing process, which will be used to analyse the dataset constituted and establish if it is suitable to be turned into an index after the data to be used is considered.

Potentially the strongest advantage, and really the whole point of utilising a composite indicator like an index is that it helps summarise complex, multi-dimensional realities with a view to supporting decision makers (OECD, 2008). Different events cite different aspects of their specific event that makes it noteworthy, be that prize money, peak viewership or otherwise (Esportsearnings.com, n.d.; Borisov, 2021). With the development of an index and the identification of significant factors comes the possibility of using the framework developed in the future. The OECD (2008:13) suggests that

composite indicators could be used to assess the “progress of countries over time”; in the case of establishing the size of events, this could be used to track increases in size. Another of the benefits identified is that composite indicators “make it possible to include more information within the existing size limit” (OECD, 2008:13). This is a direct advantage relating to the dataset being considered, with the numerous indicators being condensed into one figure. Another pro is that composite indicators can “facilitate communication with general public (i.e. citizens, media, etc.) and promote accountability” (OECD, 2008:14). Both of these components can be applied to esports, with the number of people interested in esports increasing year-on-year, meaning making figures and statistics on esports events, which are a way of people connecting with esports physically and one of the ways that spectators will consume esports. The promotion of accountability is perhaps less relevant to esports, but with an accepted framework for development of an index in place, event managers may be encouraged to focus their attention on some areas of their events over others. Similarly, another pro identified is that composite indicators “help to construct/underpin narratives for lay and literate audiences” (OECD, 2008:14). Increased use of indexes could help illustrate growth within esports. Investment in esports has seen a significant increase, and this type of index could help inform investors in the future (Rossolillo, 2022; Hewson, n.d.). Composite indicators like indexes enable users to compare complex dimensions effectively. ‘Size’ is a difficult to define concept, particularly so when considering something like esports events which have not been taking place for significant amounts of time.

On the other hand, the OECD (2008) acknowledges some potential issues with composite indicators. Using one single number to judge a complex and diverse range of characteristics could oversimplify any decisions made, and could invite simple conclusions around policy. Another example of a potential issue with a composite indicator is that it is acknowledged that by developing an index, serious failings in some dimensions might be masked, which could increase the difficulty of identifying remedial action. This could be exacerbated if the construction process is not transparent (OECD, 2008). Any index being developed is only going to be as good as the component parts it is made up of, and if the process used is not outlined in depth or has issues, these will be imported into the index itself. The process of construction for the index used to establish the size of esports events will be based on transparent indicators, detailed in depth in chapter 5. Furthermore, if the dimensions used to construct an index are cherry picked, if difficult to measure dimensions are ignored, then anything which is created based on the index will be flawed too. If policy is developed, which is one of the important reasons for the construction of composite indicators, these policies may also be flawed. The variables used to construct the index used in this case are anchored in the established field of sports events, then translated, applied and justified to esports events. Again, these are outlined in depth in chapter 5 and a process was followed to account for difficult to measure aspects. Finally, the decisions made around the use of indicators and the weights associated to them could cause problems, with the OECD (2008) citing that it could cause “political dispute”. This is unlikely when the index is being used for something like establishing the size of an event, but the potential

selection or exclusion of one indicator or weighting over another could cause events to be sized differently than they should be.

5.3 Results

The key variables from the creation of the index and subsequent comparison with the initial classification of esports events are as follows:

- Ranking index
- Classification score
- Ranking classification
- Class classification
- Class index
- Same or different

A range of sizes of events have been selected from the indexed events. Table 5.1 shows a selection of events which range in size, from minor events with smaller measures, to major events with slightly more, or giga with the highest values. The details for all 53 events are provided in Appendix 5.1.

Table 5.1

Comparison between index and classification results

Event	Ranking Index	Ranking Classification	Index score	Classification Score	Class Classification	Class Index	Class Same vs. Different
BlizzCon 2016 (Hearthstone)	16	27	6.3	4	Major	Major	Same
ESL One Cologne 2015	29	40	4.2	2	Minor	Major	Different
Fortnite Summer Skirmish Series	36	27	3.2	4	Major	Minor	Different
Fortnite World Cup 2019	1	1	12.1	10	Giga	Giga	Same
Halo World Championship 2016	46	33	2.0	3	Minor	Minor	Same
SMITE World Championship 2015	17	17	6.2	6	Major	Major	Same
The International 2014	15	12	6.4	7	Mega	Major	Different

‘Ranking index’ displays where the event ranked after the index had been generated from 1 to 53. ‘Ranking classification’ shows the rank assigned in the initial classification, again from 1 to 53. This measure differs from the ranking developed by the index in that it is determined by discrete numerical values, meaning many events are determined to be the same size and as such the same rank, such as eight events ranking as the 40th largest in the data set.

In the cross section shown in table 5.1, there are examples where the ranking in the classification developed in chapter 4 is higher, and other examples where it is lower than the ranking developed by the index. There are also some examples where the ranking is the same, such as the largest event in both the index and the classification (the Fortnite World Cup 2019).

The ‘index score’ variable corresponds to the final index scores after having applied a multiplier to the initial index scores corresponding to the ratio mean of classification scores / mean of initial index scores. This is to make the mean of final index scores equal to the mean of classification scores to facilitate comparison between the classification developed in chapter 4 and that developed in this chapter. ‘Classification score’ shows some examples of the scores derived from the classification developed in chapter 5. Similarly to ranking, some events are larger or smaller, and trends are relatively similar such as the largest event being the largest event in both scorings. The figures generated are close to those generated by the chapter 5 classification, with examples in table 5.1 of events which are fairly similar in size in both being The International 2014 and the SMITE World Championship 2015.

Both the ‘Class classification’ and ‘Class index’ variables take the data from Index score and Classification Score and assign them a text label. This is in line with what has been established in academic sporting event classifications such as Müller (2015). In the chapter 5 classification, a minor event scores 0 to 3, a major event scores 4 to 6, a mega event scores 7 to 9, and a giga event scores 10 to 12. With regard to applying the same logic for the index, the index boundaries are then simply aligned with the classification boundaries, but since classification scores cannot be between 3 and 4, 6 and 7, and 9 and 10, while index scores can, boundaries are 3.5, 6.5 and 9.5.

‘Class Same vs. Different’ shows whether or not the classes developed here and in chapter 5 are the same or not. In the cross section in table 5.1, 3 are different out of 7 but this shows a higher percentage than in the wider data set, which has only 10 differences out of 53 events in total. Of these 10, 3 are minor, 5 are mega, and 2 are major compared to the classification classes, i.e., 5 of the mega events in the classification are not mega events anymore in the index, etc.; 8 are major, 1 is mega and 1 is minor compared to the index classes, i.e., 8 of the major events in the index were not major events in the classification, etc. These figures and classes are summarised in table 5.2. A graphical consideration of the differences between the index and the classification is seen in figure 5.1.

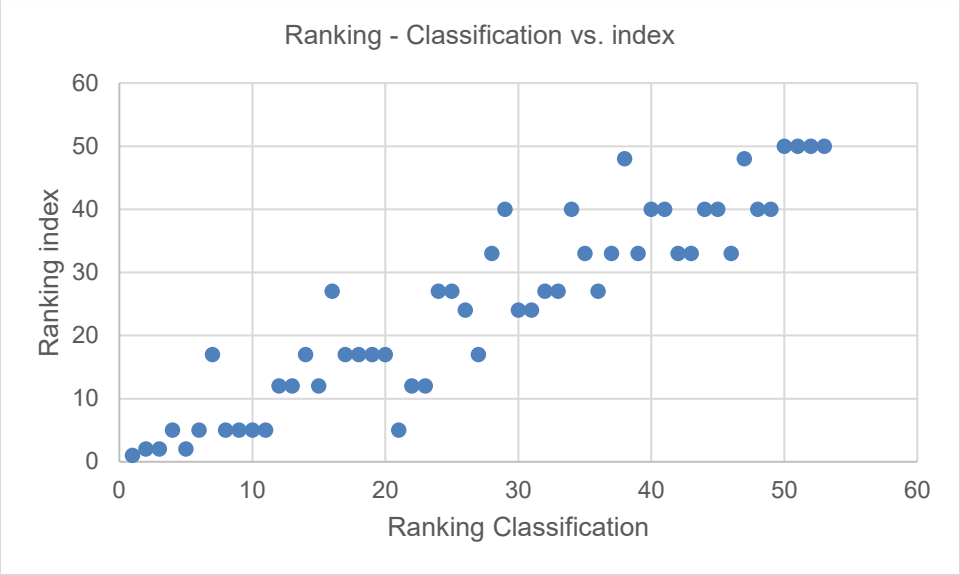
Table 5.2

Summary of differences and similarities between index and classification.

	Index	Classification	Difference (index vs. classification)
Giga	1	1	0
Major	22	16	6
Mega	11	15	-4
Minor	19	21	-2
Same	43		
Different	10		

Figure 5.1

Index and classification ranking comparison



This reflects the wider data set and is to be expected, with the most amount of events in the dataset being classified as minor in the chapter 5 classifications and major in the index. Perhaps most importantly, there are no large differences in score or in class, showing that the original classification developed has a level of reliability. Consistent with this, the correlation coefficient between the classification and index scores is 0.93, which is extremely high and confirms the reliability of the original classification compared to the index.

5.4 Discussion

5.4.1 Consideration of variables

An important question to pose when considering the development of the index is around the suitability of the variables chosen. It is clear from the measures outlined in table 5.2 that the measures of sublimes measure different elements to the other three included, given the high Cronbach's alpha, but it is worth considering this is a positive aspect. The work of Müller (2015) is based on using quantitative, quantifiable data on events. This has some application to esports. The other work drawn upon in chapter 5, then later used to create this index is that of Flvjyberg (2014), who suggests the idea of considering specific elements of events, namely political, aesthetic, economic and technological elements, although economic sublimes are not considered as this is picked up by the dimensions from Müller (2015). While it could be argued that these sublimes should be removed from the index due to the Cronbach's alpha value signified and the lack of scale reliability while the sublimes are included in the index, it is

important to consider the index without them, and what would be different if they were removed. The index developed includes these aspects to try and account for elements of events that would otherwise be missed. Examples to be drawn from the dataset include the Auto Chess Invitational 2019, which is assigned a value for the technological sublime due to being the first event of its kind, as it was the first event in the genre ‘autobattler’ (Brown, 2022). The Magic World Championship XXVI Tournament, similarly scores a 1 for the political sublime, which is the only thing it is ranked for. Larger events are also impacted by these sublimes, with examples including the Call of Duty League Championship 2020 which scored for aesthetic and technological elements, and the SMITE World Championship 2015, which again scored for technological and aesthetic elements. In both cases, these were the first large events of their kind and in their genre.

The sublimes and the way they are measured are discrete and on a scale of 0 to 3, meaning the lack of statistical sophistication of the measure is more distinct. One way of accounting for this would be to introduce elements which align with what is attempting to be measured (political, aesthetic, technological) but by using a non-discrete, continuous measure more akin to attendance or prize money variables used. Technological sublimes could be accounted for by the number of players in an event, for example, with the assumption being that more players requires more technological advancement. One issue with this would be that aesthetic and political elements are inherently more difficult to capture and require some interpretation. Alternatively, these elements could be

removed entirely, but this would mean that the more ambiguous but still relevant elements are lost.

Removing the sublimes is one way that the reliability score of the index could be improved, but an alternative method would be to introduce some other variables. A good place to start with this is with the literature reviewed previously. Müller (2015) suggests four different measures to determine the size of events: number of tickets sold, value of broadcast rights, total cost and capital investment. In chapter 5 these were adapted to esports, but given the accepted and cited nature of this work, it could be theorised that the quality of the index would be improved. Tickets sold is accounted for well with the index with in-person attendance measuring the same thing. The exception to this would be if an event offers tickets for free, although this does seem to be the exception rather than the norm, with most events in the dataset requiring an entry fee. This issue of the quality of the index cannot realistically be improved within the dataset, although there are issues given some of the events in the dataset did not have recorded measures of in-person attendance, and some where online only so had measures of 0 for in-person attendance. Given esports events tend to have much larger online attendance, the latter might be more valuable to the quality of any index developed to determine size.

The value of broadcast rights is one aspect that has potential to be important for esports. Broadcast rights in sports are typically competed over by television channels. Esports is not often shown on television, but there are some examples of where companies have paid for the rights to broadcast esports, such as YouTube paying

£160m to broadcast Activision Blizzard's esports titles, and ESL and Dreamhack signing a deal for TV broadcasting of their esports events (Hitt, 2020; Stern, 2020). There is an argument to be made that this is likely to increase too. As argued by Di Ianni (2021):

> "Esports teams typically lack the geographic identity that traditional sports teams enjoy because of their strong ties to a particular state and/or city, which (i) fosters local team adaptation and loyalty and (ii) increases the value of media rights by creating a robust market for regional and targeted advertising inventory".

There have been movements, such as with the Call of Duty and Overwatch Leagues, to tie teams to a geographical location, and as such, broadcast rights may become more valuable over time.

Total cost is measurable for sporting events which often have transparent bidding processes meaning (at least initial) costs are visible. Esports events often have bidding processes which take place behind closed doors, meaning total cost is particularly difficult to measure. Furthermore, even if the costs were made easier to assess, it is unlikely that all events could be measured consistently, particularly when events are particularly small and take place amongst a niche group of competitors, or when an event is large and multi-faceted. The tool often used for the measurement of cost is cost benefit analysis, which is often derided as being flawed when considering sporting events: "It is clear that mega-sporting events are extremely liable to less-than-accurate sporting impact studies. These analyses may overstate benefits, understate costs and misuse multipliers" (Barclay, 2009:66).

Capital investment is also an issue relating to esports, again with this being difficult to measure, and with some overlap with total cost. How capital investment could be determined is difficult to imagine, with most esports events taking place in already established arenas and with minimal change to the local area. Müller (2015) uses the example of 97% of spending on the Olympic Games in Tokyo in 1964 being on ancillary infrastructure, but esports events are unlikely to be large enough to require any ancillary infrastructure (e.g. road and rail network) development. Certainly, none in the dataset used here required any extra infrastructure to be built.

5.4.2 Evolution of index/classification

A point worth making regarding the index and also chapter 5 is that the data available will evolve and improve over time meaning the index and classification developed could be improved extensively. Values of broadcast rights will likely increase over time, and will grow for the largest esports. These will likely be announced and reported, as they were for the Activision Blizzard deal. Total cost and capital investment are likely to increase, with recent examples including $300m invested into a firm who build esports centres (Takahashi, 2020). This links to the overall intention of this chapter and the previous classification developed, that the expectation is for this to be a starting point to build upon existing esports research. As data become more available the index and classification could be improved and built upon to more accurately reflect reality and account for size as closely as possible. The titles among the biggest in esports change over time, so any attempt to classify them or order them should also evolve over time.

Future extensions to the classification and the index could include the type of game as this changes. Virtual reality and augmented reality are seen as likely to increase in significance (Cranmer et al., 2021), so introducing these as specific considerations may become important. Online-only events have also seen increases in importance, particularly so in a (post-) COVID environment, with multiple events (ESL, Call of Duty League and LoL events) all switching to online-only (ESPN.com, 2020). Another significant consideration on size is the longevity of esports events. Some esports (CS:GO, Dota 2, LoL) have been distinguished for a while, so it would provide an interesting and potentially impactful insight to consider the interaction between the size of esports events and events being repeated over time. Links to other events would also be a valuable consideration. The largest events in the dataset developed are all finals which require qualification from elsewhere, such as the Fortnite World Cup 2019 and all of the iterations of the Dota 2 tournament The International. Dota 2 uses a system where points are gained in a league system, then the top 12 teams from the leagues are invited to the grand final (Dota2.com, n.d.). It could be theorised that the more associated events, the larger an event will be.

5.4.3 Technical considerations

The index was developed as a form of sensitivity analysis and a robustness check for the classification developed in chapter 5. The acceptable nature of the index shows that the classification developed works well. There are some accepted issues with composite indicators more broadly, however. Greco et al. (2019) outline some potential

issues with the utilisation and the steps used in the development of composite indicators. Greco et al. (2019) outline a number of solutions to assigning suitable weights, including running multiple linear regressions, correlation analysis or simply assigning equal weighting. However, the authors suggest that weighting results in it being difficult to compared figures if they are weighted differently, and that when weights are inconsistent, comparison could prove difficult. The index developed here does not use any weighting, but if indexing is used in the future as suggested, then this could develop. Greco et al. (2019) also outline how aggregation is always a best fit process. Similarly to weighting, there is no such thing as a perfect aggregation, with each being fit for a different purpose with corresponding benefits and drawbacks accordingly. Finally, Greco et al. (2019) highlight that there are issues with robustness with composite indicators. Naivety is suggested as one potential issue, where without knowing the consequences of the choices taken at each stage a “meaningless synthetic measure” might be generated. Greco et al. (2019) relay the examination of the Shanghai ranking by Billaut et al. (2009), an index used to rank the 500 Best Universities in the world. Billaut et al. (2009:260) explain that “if the construction of an index fully neglects the aggregation techniques’ properties, it ‘vitiates’ the whole purpose of evaluation and eventually shows a distorted picture of reality”. Greco et al. (2019:81) underline that “regardless of the composite’s objective (e.g. serving as a tool for policymakers or otherwise), these aggregate measures ought to be tested for their robustness as a whole. This will act as a ‘quality assurance’ tool that illustrates how sensitive the index is to changes in the steps followed to construct it and will highly

reduce the possibilities to convey a misleading message." Again, this is something which, while it is not as much of an issue now, with the increasing popularity of both esports and composite indicators, will likely be an issue in the future.

There are some practical implications for the index developed. The index could be revised to be suited to other esports event databases as they become more widely available, as they likely will in the future. Finally, the index could be used to inform policymakers, funding bodies and governments.

5.4.4 Limitations of method employed

Chapter 5, concerning the development of an index based on chapter 4, naturally has some similar issues to chapter 4. It is difficult to establish if one or more of the variables should be more highly weighted in the development of an index. As mentioned previously, the framework established for developing composite indicators is not intended for this usage, and is more for comparison, often between nations or regions. This type of index would also benefit from more data being both available and accessible, and similarly to the classification of esports events, data being widely available across a longer time period would improve the quality of the index developed. Finally, as outlined by Kararach et al. (2017) there is still a degree of subjectivity despite the less subjective method used through the construction of an index. For example, in the choices or ignoring of variables, in the level of weighting assigned, or in the filling of missing values.

5.5 Conclusion

The application of the index helps expand chapter 5 and apply a rank to a dataset of esports events. Questions are raised over the process and the individual steps used, with responses provided. Overall, the ranking produced has value. Compared to chapter 5, the ranking is shown to be relatively similar, with the largest and smallest events being ranked similarly. Questions could be raised over whether an index is the most suitable measure and process for evaluating this type of data set, with indexing typically used for ranking countries or country-wide indicators, but the technical suitability and the measures, such as the Cronbach's alpha, show that the index is satisfactory. Over time, esports are likely to grow in size and professionalism, and esports events will likely also grow, meaning the range of data available will increase and the index will likely be strengthened, widened and improved. The index can also be revised over time, with esports still in its infancy, meaning the possibility of strengthening the index through some adaptations (potentially involving stakeholders) is likely. Finally, the index is suitable for analysis by policymakers and decision makers within esports during a time when little data are available, so it could be argued that the index does its job adequately.

6. A consideration of how business model of video games impacts on respective esports event size

6.1 Introduction

The type of business model a video game utilises has the potential to have a significant impact on player numbers, revenue, and overall success. It will also likely impact on any associated esports. The relationship between the model used and the number of players raises the question that is to be explored here, namely does the business model employed by a particular game or by that game's publisher have an impact on the associated esport, and specifically does it have an impact on the events associated with the esport? The conventional thinking would be that more players would result in more interest, more sponsorship, more viewers, and higher in-person attendance. As a result, there would be a higher score in the classification developed previously in chapter 4. Furthermore, this would dictate that F2P is likely to be the highest scoring on average, with B2P being lower, followed by P2P. This has a level of face validity, in that the highest scoring events in the classification developed in chapter 4 almost exclusively being F2P (Fortnite, LoL, CS:GO, Dota 2). Additionally, when considering prize money, of the top 10 esports, eight are F2P, or nine if including PUBG which recently switched to F2P when it was initially B2P. The only videogame inside the top 10 which is not F2P is Overwatch.

This chapter aims to explore the relationship between esports event size, and the business models employed. To do so, a number of regressions are run, testing the

impact of the business models employed on esports event size. Multiple regressions were run to explore options in relation to the potential outcomes, but the main regression to be explored, which is linear, is seen below. The regression run is found to be reliable and has no heteroscedasticity, so no correction was required. The data used requires some additional adjustments in order for this analysis to take place. A number of groups of dummy variables are introduced. The business model employed and the year the event took place are both adjusted to be dummy variables. In the end, the regressions aimed to explain the dependent variable ‘Esports events size’ by the independent variables ‘Edition’, ‘Year’ (dummies from 2013 to 2021) and ‘Business models’ (dummies B2P, F2P or P2P).

6.2 Results

Table 6.1 provides the results of the regression explaining esports events size as determined by the initial classification (chapter 4). As a robustness check, a regression explaining esports events size as determined by the index (chapter 5) was also tested. The results of this regression (available in Appendices) are compared to the results of the regression in Table 6.1, the latter results being commented as either robust (same result) or not robust (different result) to a change of dependent variable (i.e., a move from the initial classification scores to the index scores).

Table 6.1

Regression, Business model vs. Event size (Measured from the Initial Classification Scores)

Variable	Coefficient	Std. Error	t	P-value
Edition	1.123217	.238814	4.70	0.000
F2P	5.289579	.9639232	5.49	0.000
B2P	5.521803	1.325387	4.17	0.000
P2P	Ref.			
2013	-2.222121	2.146013	-1.04	0.307
2014	Ref.			
2015	-1.894019	1.618169	-1.17	0.249
2016	-2.072766	1.602151	-1.29	0.203
2017	-2.644125	1.592314	-1.66	0.104
2018	-3.290179	1.635103	-2.01	0.051
2019	-4.070832	1.577196	-2.58	0.014
2020	-3.265838	1.848906	-1.77	0.085
2021	-2.432541	2.225616	-1.09	0.281
Constant	1.309324	1.555585	0.84	0.405
Number of observations	53			
R^2	0.5941			
Adjusted R^2	0.4852			
Prob > F	0.0000			

On exploring the data using regression, it was identified that the Edition variable introduced has a significant positive impact on the score given to an event (robust to a change of dependent variable). This is to be expected, as naturally those esports that

are successful will have more longevity and host more events, and these events will be larger. If a regression is run while excluding Edition the model reduces in quality extensively and incrementally becomes unreliable. With the regression outlined above, P2P and the year 2014 are excluded as references. P2P seems to have the most negative impact based on previous exploratory regressions[3]. The main conclusion to be drawn is that both F2P and B2P have a significant positive impact on score compared to P2P (robust to a change of dependent variable). This aligns with the initial hypothesis drawn that P2P is likely to have the smallest events based on being less popular overall. There is an unexpected result however, as 2018, 2019 and 2020 all have significant negative impacts compared to the reference year of 2014. 2017 also has a negative impact, but is not statistically significant, although it is not far from being significant, as $p = 0.104$. This may cast doubt over the idea that the average score of esports events increases over time. This could be more or less the case for a given event (this is captured by Edition), e.g., League of Legends World Championship scored higher over time, but if there are more and more yearly events, and maybe not so large events over time, this is not the case on average. However, it must be noted that the significant differences compared to 2014 are not robust to a change of dependent

[3] Ordered rather than linear regression was also tested. This is because scores are not continuous (cannot be 1, 1.01, 1.02, etc.) but ordered, and one may argue that the gaps between scores 1, 2, etc., 12 are arbitrary rather than representing the same distance every time, i.e., exact same distance between 1 and 2, 2 and 3, etc., 11 and 12. However, it can be considered that it is not a problem with 12 different scores, as this is the case here. It can be considered that this is enough so that a linear regression is acceptable. This would be more of a problem if there were only 3 ordered scores such as low, average and high, far less precise.

variable. Although all year dummies are still negative compared to 2013 when the dependent variable is esports events size as determined by the index, there is no differences being statistically significant anymore.

6.3 Discussion

6.3.1 Interpreting similarities and differences between business models

The finding that F2P and B2P have a positive impact on event size when compared to P2P, with coefficients quite similar for both business models, has some significant implications worth discussing. The fact that the coefficients for F2P and B2P are more or less the same is opposite to the expectations that F2P would have a higher coefficient than B2P. In the dataset, there are seven B2P esports, with larger examples including Overwatch and Call of Duty: Modern Warfare, and smaller events including Halo 5, which as an esport is still large. This is opposed to the wider range of larger and smaller F2P events. The largest F2P events include the largest to have ever taken place, such as the Fortnite World Cup, multiple iterations of The International, the Dota 2 season ending event, and two iterations of the League of Legends World Championship. At the other end of the scale, there are Shadowverse World Grand Prix 2018 and 2019, and the Auto Chess Invitational 2019 all of which are rated as minor events. This raises the issue that there might be some selection bias in the dataset as the events chosen appear to be larger for B2P than F2P. This potential bias can be explained by the dominance of F2P in the industry, with 85% of the revenue generated by the industry coming from F2P games (Dautovic, 2020). While there are other

variables to consider in examining the impact of F2P games, revenue gives a good indication of how dominant it is within the industry. Furthermore, mobile gaming has seen significant increases in growth, and mobile gaming tends to rely on the F2P model more often. This is theorised to be the case due to independent, smaller developers disrupting the market by offering free games, before larger publishers moved towards this model when the success of pay-to-win and freemium business models were observed (Tomić et al., 2018). Mobile gaming has seen some significant growth also, with the industry expanding by 25.5% year-on year, and in 2019 mobile gaming also reached 60% market share in gaming consumer spending, and 50% of all mobile users open at least one gaming app each week (Dautovic, 2020). This in itself shows how F2P is so dominant to the industry, but also signifies an issue with the data used. Less than 10 of the 53 esports events considered have mobile elements. An example of the growth of mobile esports is the rise in popularity of PUBG: Mobile, a version of PUBG which is different to the traditional PC/console game. PUBG: Mobile has multiple events with large viewership, large prize pools and large attendance (Daniels, 2021a). This growth is fuelled by growing popularity in Latin America and Asia and has even resulted in Arena of Valour and PUBG: Mobile being part of the 2022 Asian Games (Daniels, 2021b). Considering the past and potential future growth of mobile gaming, more events could be included and analysed. In terms of the analysis being undertaken here, there are more F2P events than any others, meaning any findings are likely to be influenced by this.

In an attempt to be more specific, the larger B2P events in the dataset can be examined. Overwatch is a videogame and esport which is examined extensively in this thesis, and it is well established that it has a high degree of professionalism and a sophisticated esports network. Call of Duty and the Call of Duty League are similar, with the same style of network and a high degree of commercialisation. This results in each of the characteristics outlined in chapter 4 as measures of size being potentially larger than average. It could be also theorised that the business model lends itself to having a more established esports due to having initial development costs (being offset by the charge for purchasing the game) contributing to the high(er) quality of the game, as opposed to F2P which have nothing to offset this cost. A B2P model means that if a game is popular enough for an esport to become viable, the investment into development is likely to be recouped, and as a result the associated esport is more likely to be invested in. B2P videogames have a system where any investment can be recouped by sales of the game, meaning the firm associated could have capital available sooner to then invest in esports. In other words, the possibility of investing in an associated esport may come quicker with a B2P model, when the initial investment is recouped. Esports result in increased engagement from players, an increased player base, and provide the opportunity for esports competitors to act as ambassadors for their game, providing marketing and promotion opportunities outside traditional methods (Egenes, 2021). In time, esports also offers other monetisation opportunities. These include “sponsorship from endemic and nonendemic brands (by far the biggest area), advertising, publisher fees, media rights selling (which is the fastest growing area),

ticket sales and even merchandise (both physical and digital)" (Dring, n.d.). The B2P business model, with its aim of producing a more complete product for a fee, has the potential to produce a more comprehensive esport earlier than F2P or P2P business models. More specific examples of how a firm could earn money from esports, and as such, examples of why a firm would pursue an esport, include $1.6bn being generated from media rights, fees, tickets, merchandising, ads and sponsorship across all esports in 2018, $20m being charged for Overwatch League team positions, and five times higher play time for players competing in FIFA esports than those who do not (Dring, n.d.). Both FIFA and Overwatch are B2P titles.

Dota 2, a F2P game, was also identified as an anomaly in chapter 4 regarding prize money. The prize pool for Dota 2's largest events are increased when players buy in-game cosmetic items, meaning it often scores towards the higher end of the classification developed (Van Allen, 2017). As internet access and the popularity of F2P games have increased, so have the size and frequency of esports events (Wingfield, 2014b). This raises an interesting point about the funding of prize money of F2P vs. B2P games. It could be theorised that F2P games draw prize pools more from the number of viewers for an event, or the number of players playing a game, whereas B2P, in particular Overwatch and Call of Duty League, can offer larger prize pools due to the heavily commercialised nature of the event or league. During its inaugural season Overwatch League had sponsors such as Coca-Cola, IBM and Kellogg's (Duran, 2021). More generally, as explained by Duran (2021) Overwatch has many sponsors, including league-wide and team specific sponsors, including Coca-Cola (league-wide sponsor)

and Comcast (league-wide sponsor, Philadelphia Fusion sponsor). The first iteration of the Call of Duty League also had large sponsors, including Mountain Dew, PlayStation and SCUF Gaming (Hayward, 2020). It has to be noted, however, that the publisher of these two video games is experiencing a turbulent period, with Activision Blizzard engaged in a number of lawsuits (Amenabar, 2022).

P2P prize pools, on the other hand, are smaller across each event that has been considered in the dataset. This could be for a number of reasons. The nature of P2P games is that they are less competitive. Often the majority of P2P games focus on story-driven, player vs. environment (PvE) content, where players may be in teams but they focus on fighting against computer controlled enemies rather than player controlled enemies. This means that competitive, more esports-like elements are not encouraged. The focus of video games with P2P models is often on producing content which gets players to come back to the game regularly and maintain paying a monthly charge. This tends to be new areas, locations and skills rather than updating the competitive elements of the game. It is also worth considering how a monthly charge compares to other business models. As explained by Tabari (2022), if you were to have paid for a subscription for World of Warcraft (WoW) from the beginning, and purchased additional extra content, you would have paid at least $1000, or 83 full priced (B2P) video games, not including more expensive versions of this extra content. Tabari (2022) argues that this is causing discontent within the community, with low review scores.

6.3.2 Business models vs. audience components of esports events size

The key determinants of the size of esports events is explored in chapter 4. One of these is identified as being attendance. This is grounded in the literature on sporting events, with the majority of definitions explored by Müller (2015) in his influential work all making some reference to attendance, or in some cases there is reference to the cost of broadcasting an event. This is modified to account for esports not being reliant on fees being exchanged for broadcast rights by taking attendance in-person and 'attendance' online, in the form of viewership online. There are a number of points of analysis that can be made when considering business models and the size of events linked with them.

If the data are ordered by the score given to online attendance, the top 25 events are all F2P, with one exception which is the Overwatch League Final in 2019. This displays how popular F2P games are within the industry. This event was the season-ending flagship event for Overwatch, and it also scored relatively highly for in-person attendance and in the second highest bracket for prize money. It was also the largest Overwatch event. Other than this, all other events considered in the top 25 in the dataset are F2P. This includes some events which are season ending events such as the Fortnite World Cup in 2019, but there are also mid-season and invitational events which take place more often. These events tend to be influenced by significant overseas viewership. An example of this is League of Legends, which has the two largest events in terms of viewership, with figures being significantly higher than the rest of the data set. It can be observed that over 57m viewers were recorded in 2017 and 44m in 2018.

These statistics often do not include data from China since the figures are not released, this means a significant number of viewers are not recorded, especially as the publisher has recognised the importance of China to LoL (Daniels, 2021c; Baker, 2018; Kharpal, 2021). For the rest of the considerations, B2P events either score 1 or 0 for online attendance, with most events not approaching the thresholds for either peak or unique viewers to be scored a 2 for online attendance. P2P events are similar but smaller, with no event scoring above a 0. It could be argued that the dates considered for the majority of the events in the dataset are after the peak of the P2P business model; as previously discussed, WoW hit a peak in 2010 of 12m subscribers. The earliest P2P event in the dataset is from 2016. It is likely that data from the peak of the P2P business model, for WoW or otherwise, would be difficult to obtain and inconsistent due to esports not currently being as well developed.

The in-person attendance measure is dominated F2P events, and in particular by the Intel Extreme Masters events (F2P), which in the dataset included are hosted in Katowice in Poland in 2016 and 2017. Also large in terms of in-person attendance is the LoL World Championships (F2P) in 2014, 2017 and 2018 which took place across a variety of locations. Each of these five events scored a 3 for in-person attendance, with over 30,000 attendees in each case. Also scoring 3 for in-person attendance are three WoW events (P2P), the Arena World Championship in 2017, 2018 and 2019. This is an anomaly for numerous reasons, namely P2P scored zero in each other category, for every other event. The smaller events in the dataset which do not have a P2P system have some characteristics which cause them to score above zero, meaning it is

significant for these three events to score so highly. The other P2P events in the dataset, all for Runescape, were online-only with no in-person attendance. There is an unexpected result for P2P when considering in-person attendance. The WoW events also scored highly compared to their online attendance, which is zero for all three events. It is likely, however, that the figures for in-person attendance are inflated. The three P2P events for WoW took place during BlizzCon, a convention for the publisher of WoW, Blizzard. The in-person attendance figures are taken from the overall attendance at the convention rather than the specific esports event, meaning the figure for each event is likely higher than it should be. Even if an accurate measure of attendees was available, some attendees would likely go because they were attending the conference rather than them coming specifically for the event.

6.3.3 Business model => number of players for a videogame => esports event size?

This discussion of esports and their attendance, in-person or online, raises a question of whether a larger videogame results in a bigger esport overall, and whether this should be considered in relation to a specific event. One of the measures debated by the work of Müller (2015) and his contemporaries in considering the size of sporting events is the possibility of accounting for the number of participants in a sport to measure the size of an event. This was not considered for esports, in part because the link between the number of players and the size of an event was not well established, but also due to the unavailability of data. However, Dota 2 and LoL are often considered to be among the

most popular video games, and often host the largest events in esports. This also raises the question that more players may result in more viewers overall. Oleskovicz (2021) explores this, examining how many players play a video game associated with an esports based on figures from 2020. In terms of the reasons for asking this question, there are implications for advertisers and marketers for understanding their target, and there are implications for the publishers themselves with the possibility of selling in-game content. Oleskovicz (2021) explains this well:

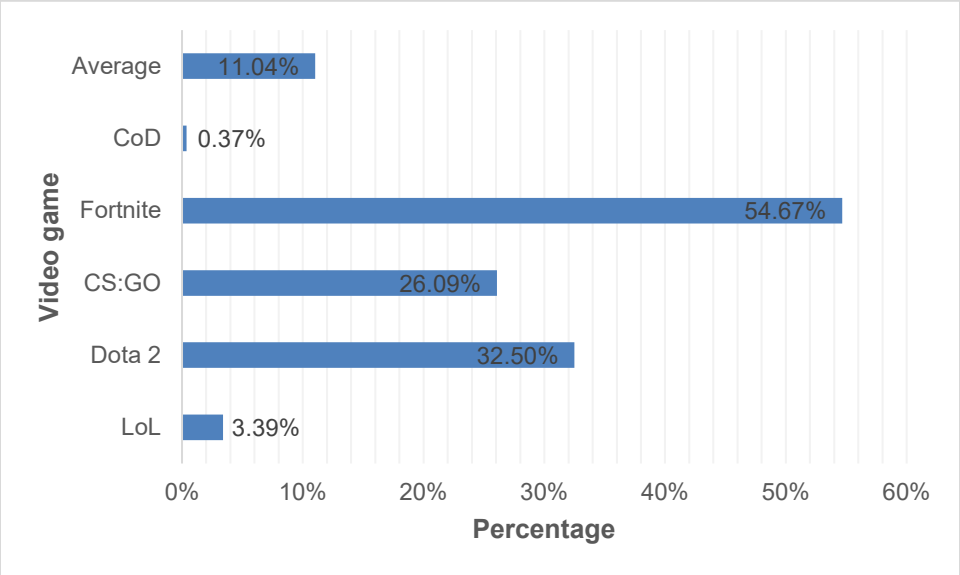
> "The esports audience divides its attention between content created "for fun" by retired professional players and/or analytical commentators working towards creating hype, and professional leagues, but the esports market is oriented at any person playing online video games: they can be reached through in-game advertising or endemic marketing through brand integration."

A perfect example of this is the recent launch of the Overwatch 2 beta and the use of 'drops', which are rewards for watching content related to a game for a certain amount of time. This system resulted in viewership figures of over three times more than the previous record for Overwatch (Bailey, 2022). Among the conclusions drawn by Oleskovicz (2021) is the idea that there are many significant esports, with Fortnite being relevant both culturally and within the market. It is also argued that as a result of mismanagement by the publisher, CoD esports are not viewed as much as they should be. A figure is not established for CoD because player numbers are not published, but the estimate stated by Oleskovicz (2021) is 50m monthly players and a viewership peak

of 331,000. To put this into perspective, these figures and other stated by Oleskovicz (2021) are seen in figure 6.1.

Figure 6.1

What percentage of players are watchers? (2020 data)



Source: Oleskovicz (2021)

This figure shows the number of esports watchers as a percentage of the players of the associated video game. A number of conclusions can be drawn from these percentages. LoL is surprising low given the size of its esport, but the percentage is influenced by the huge monthly players figure. Dota 2 is to be expected as slightly above average, and CS:GO also being slightly above average is expected as a game which attracts considerable attention outside of its player base. Fortnite is perhaps the most surprising, with over half the player base watching an esports event in 2020. Fortnite has reduced in popularity within esports more recently however, so it would be expected that this would be significantly lower with more recent figures. In terms of the

business models of each of these 5 games, the only game which is not F2P is CoD (B2P), which has the lowest percentage. Again, this is skewed by a large number of monthly players, but is symptomatic of the reported issues concerning CoD League, such as officiating issues, technical problems with the games themselves, and the players themselves arguing the game is not effectively designed to deliver a high level esport and is more focused on sales (Raghuram, 2020; Giza, 2020; Taylor-Hill, 2021).

Oleskovicz (2021) makes an important point when attempting to measure the size of the esports outlined in figure 6.1, explaining that “Competitive gaming statistics are a bit fuzzy; grassroots and Tier-2 tournaments make it hard to say exactly how many professional esports players are there in the world”. The exact definition of esports can range from anyone who plays videogames at all, as competitive elements can still be found in many games not designed for esports. Oleskovicz (2021) estimates this as 2.6bn people. This definition is likely to be broad, however, but still raises the issue that without a clear definition of esports it is difficult to measure the exact impact. This is mirrored in the difficulty to establish business models used in videogames. Considering the largest events in the dataset, Fortnite is played by most players as a F2P game, however, with microtransactions there are clear, one off purchases that are closer to B2P in nature, and with the aforementioned ‘Fortnite Crew’, there is a P2P system. CS:GO, similarly, is renowned for their sale of in-game cosmetic items and loot boxes, and as mentioned previously, now requires a monthly payment to take part in the competitive element of the game. The multi-game subscription system mentioned previously also confuses things further, such as Xbox Game pass. These systems

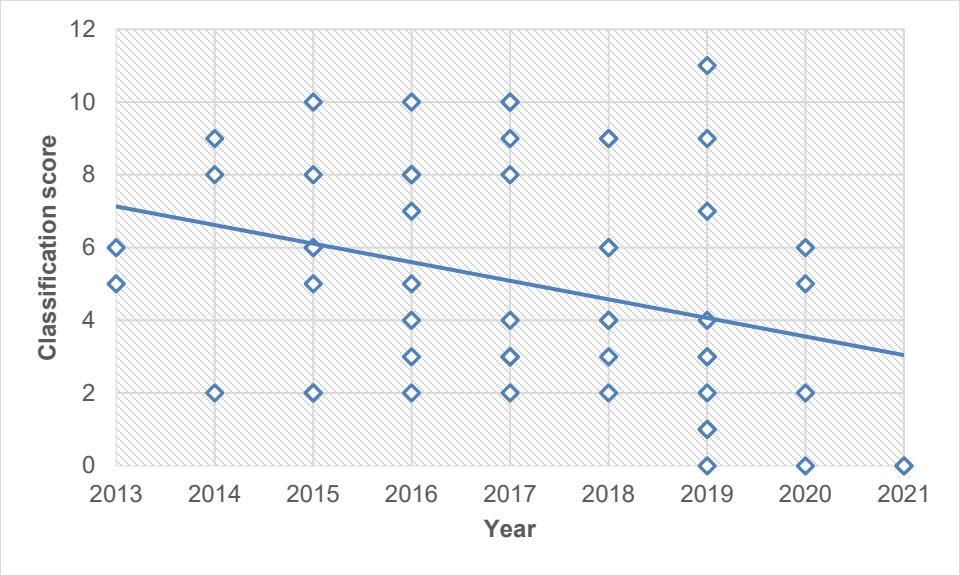
mean that games which would be B2P are then P2P, but without a direct payment for them and with a limited time for them to appear on the platform. The link between viewership and players is something that could be explored in more depth, potentially through primary research.

6.3.4 Esports events size and evolution over time

An interesting point of analysis to consider is the idea raised by the inclusion of Edition, that events which take place repeatedly grow with each repetition. This is captured in the significant, positive edition coefficient seen in table 6.1. However, 2018, 2019 and 2020 all have significant negative impacts when compared to the reference year of 2014, which highlights this idea of events becoming larger and larger into question. Within the dataset, when considering size it appears as though there is not a set or discernible pattern to the size of events. As seen in figure 6.2, there even appears to be a decrease over the course of the data considered.

Figure 6.2

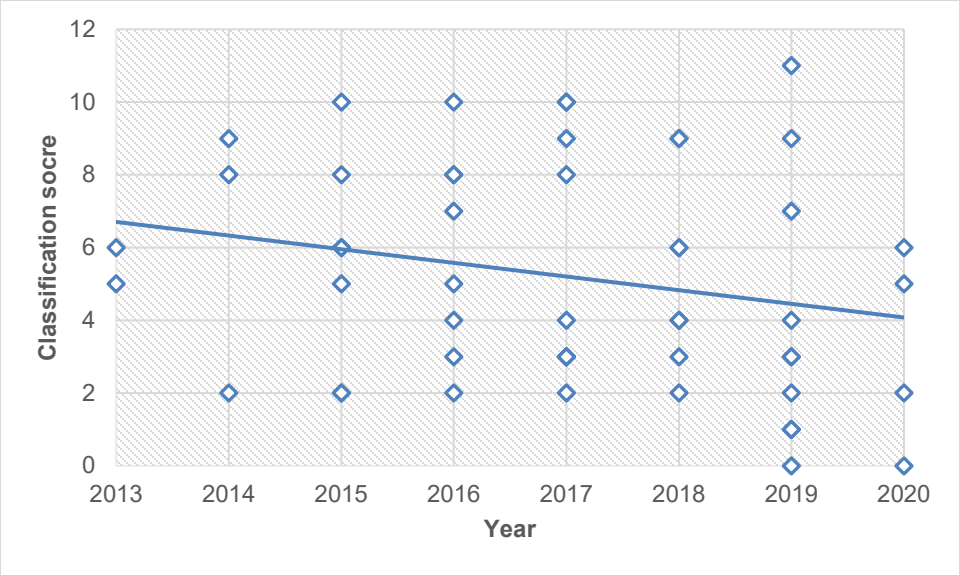
Event size per year



There is a general decrease in size as time progresses, which is unexpected, but the trend is adversely influenced by the presence of multiple events in 2021 which are scored at 0. Figure 6.3 removes these events from the data set.

Figure 6.3

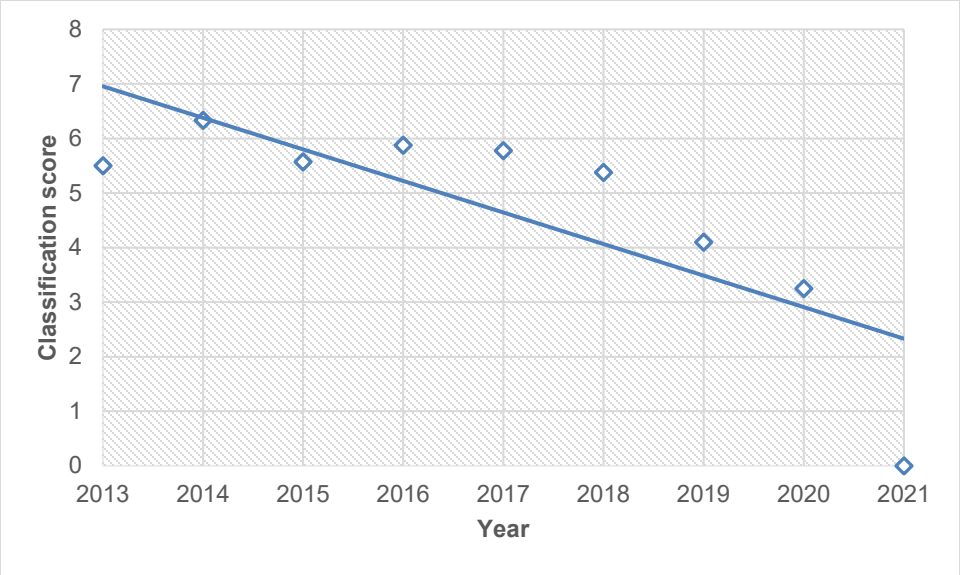
Event size per year (2021 excluded)



Despite these events being removed, the data still does not have a discernible pattern, and the trend is still generally decreasing. Furthermore, even if this is considered from a different perspective by using the average size of events, the pattern remains the same, as seen in figure 6.4.

Figure 6.4

Average event size by year



When accounting for average rather than showing each individual event, the trend is still decreasing, events are not growing overall, and the number of small events growing significantly can be observed. When the number of events that take place is likely increasing over time, this kind of shape is to be expected. 2021 events are also removed, which elevates the trend line slightly. The most likely reason for the shape is the inclusion of a degree of selection bias, due to the unavailability of data, the lack of randomness to the selection, or some unconscious cherry picking. The data which are most visible is easier to acquire data for certain events over others, such as large events vs. small events. Another potential issue is that the dataset was compiled without the idea of measuring events over time, with the intention being for a more cross-sectional approach, looking at events at a single point in time. Consequently it may not capture or record the data in a way that can be used to just events using a time

series approach. Also worth consideration is the influence of COVID, which had a significant impact on the number and size of events hosted.

6.3.5 Business model vs. prize money over time

There are some considerations which counter the idea that esports events have not increased in size. The data on prize money is one of the most organised and well-constructed measures of size and can offer some valuable insight into the growth of esports events over time. An excellent source of this data is compiled by Kirsh (n.d.). This data covers all esports events covered on esportsearnings.com, starting with a tournament on QuakeWorld on 01/01/1998. The games used for the most common events include Starcraft: Brood War, which is responsible for 220 events, WarCraft III which is responsible for 198, and Super Smash Bros. Melee for 195. Interestingly, all of these are B2P games. The largest events established in chapter 4 also appear among the highest amount of events in the dataset, with Counter-Strike appearing multiple times, for example: Source hosted 84 events, GO hosted 115, and the original Counter-Strike 140. Call of Duty with its various iterations also appears regularly, accounting for 249 events in total. The version of the data set used here contains a record of 7,341 individual events. Alongside the earnings from each event are the number of players competing in each event, and the number of individual tournaments that make up the event. Both of these measures are dominated by CS:GO, with 24 of the top 25 players and 21 of the top 25 tournaments. These variables are not clearly defined, however, and there seems to be variance in what groups of players are measured. For example,

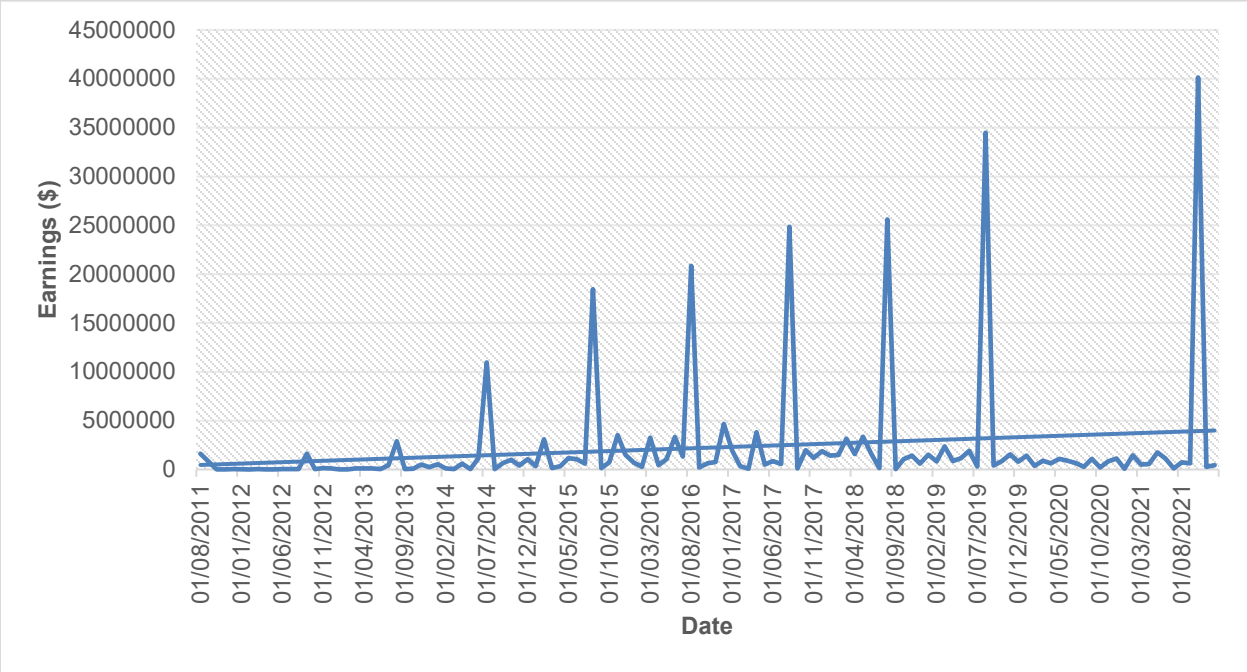
Epic Games claimed that over 40m players took part in their 2019 Fortnite World Cup, but in the data set created by Kirsh (n.d.), there are two measures of ‘Players’ both of which are 100, which is likely to be the number of players in-person at the event. Similarly, for the ‘Tournament’ measure it is difficult to ascertain what this means, whether this is qualifiers for a specific event, individual events taking place under an umbrella title, or something different. For this reason, i.e., the ambiguity around these measures, these two variables will be disregarded.

This prize money data is similar to that drawn upon for the classification of esports events but covers a longer time series. The data do not have any considerations other than prize money.

Dota 2 is discussed extensively in this chapter and this thesis, in part due to its large prize pools drawn from in-game cosmetic purchases. Dota 2 and its prize pools follow an increasing pattern, as seen in figure 6.5, with the larger events having significantly larger prize pools, but also a significantly larger number of events in total. Given that Dota 2 is a F2P game, this steady growth might be expected. The gap between the large peaks in 2019 and 2021, with a cancelled event in 2020, is also expected.

Figure 6.5

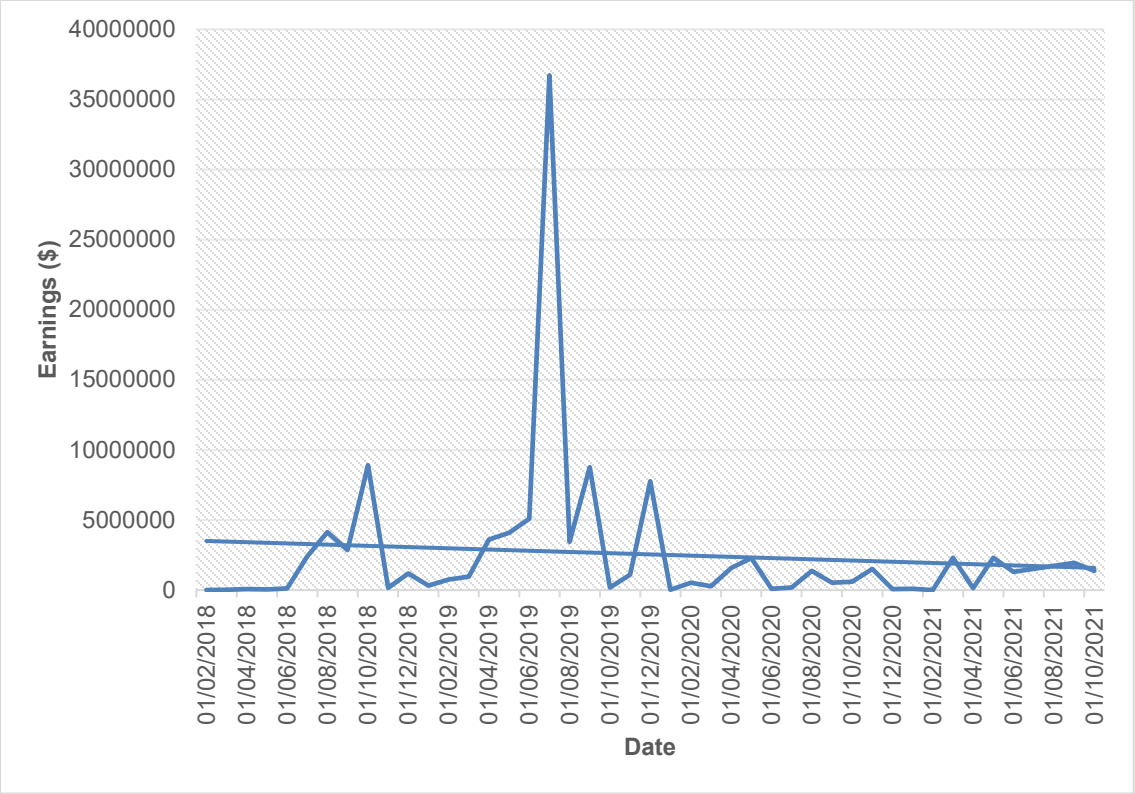
Dota 2 events - prize money evolution



Fortnite shows a more turbulent movement in prize money, with a large peak in 2019, which is the 2019 Fortnite World Cup, before a significant drop off afterwards, seen in figure 6.6. This is indicative of an increased number of smaller events and fewer season-ending flagship events. Only 8 events took place in 2021 compared to 12 both in 2020 and 2019, and prize pools were smaller than previously. Fortnite professionals have expressed their concern on this, explaining that the prizes handed out in 2021 were 18% of 2020 (Sledge, 2021).

Figure 6.6

Fortnite events - prize money evolution



Both of these videogames are F2P and show significantly different patterns in prize pool data. As a contrast, Overwatch and Call of Duty (B2P) both show growth over time, although with more peaks and troughs, seen in figures 6.7 and 6.8 respectively. The data on Call of Duty also includes a long period where events were community-organised and much smaller.

Figure 6.7

Overwatch events - prize money evolution

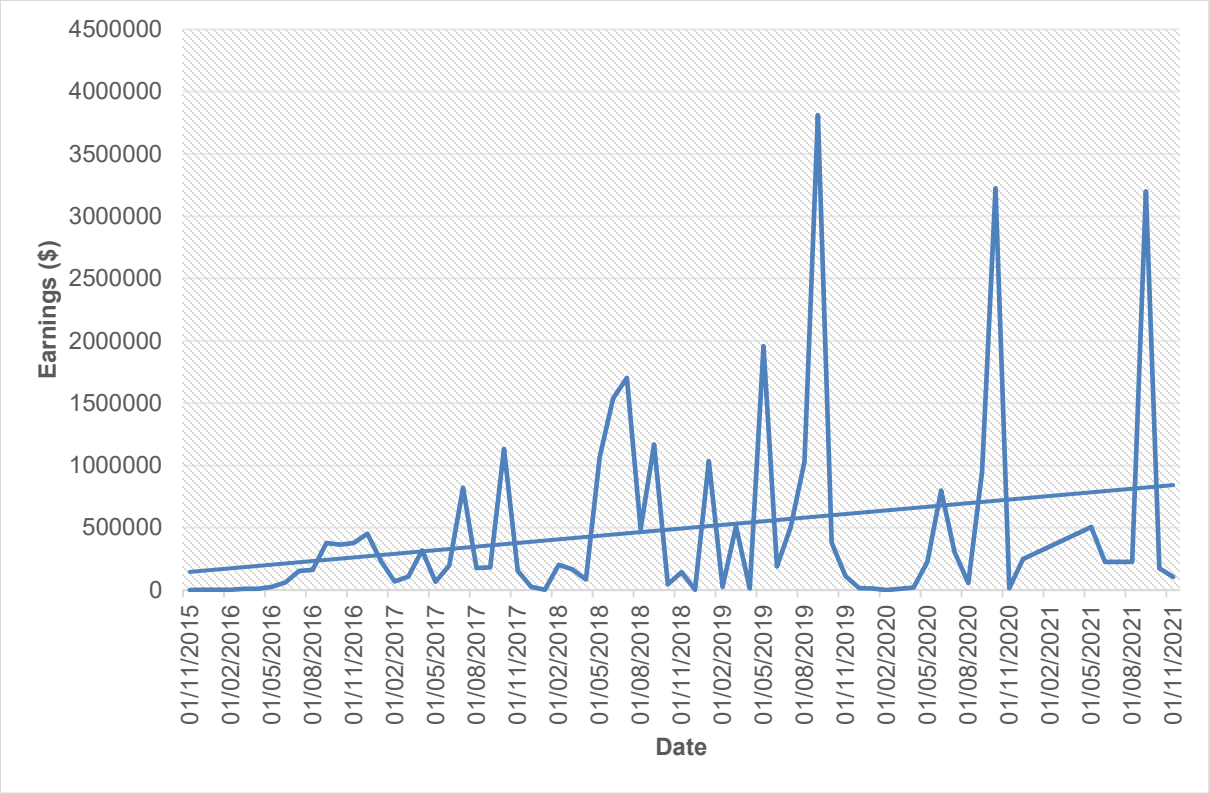
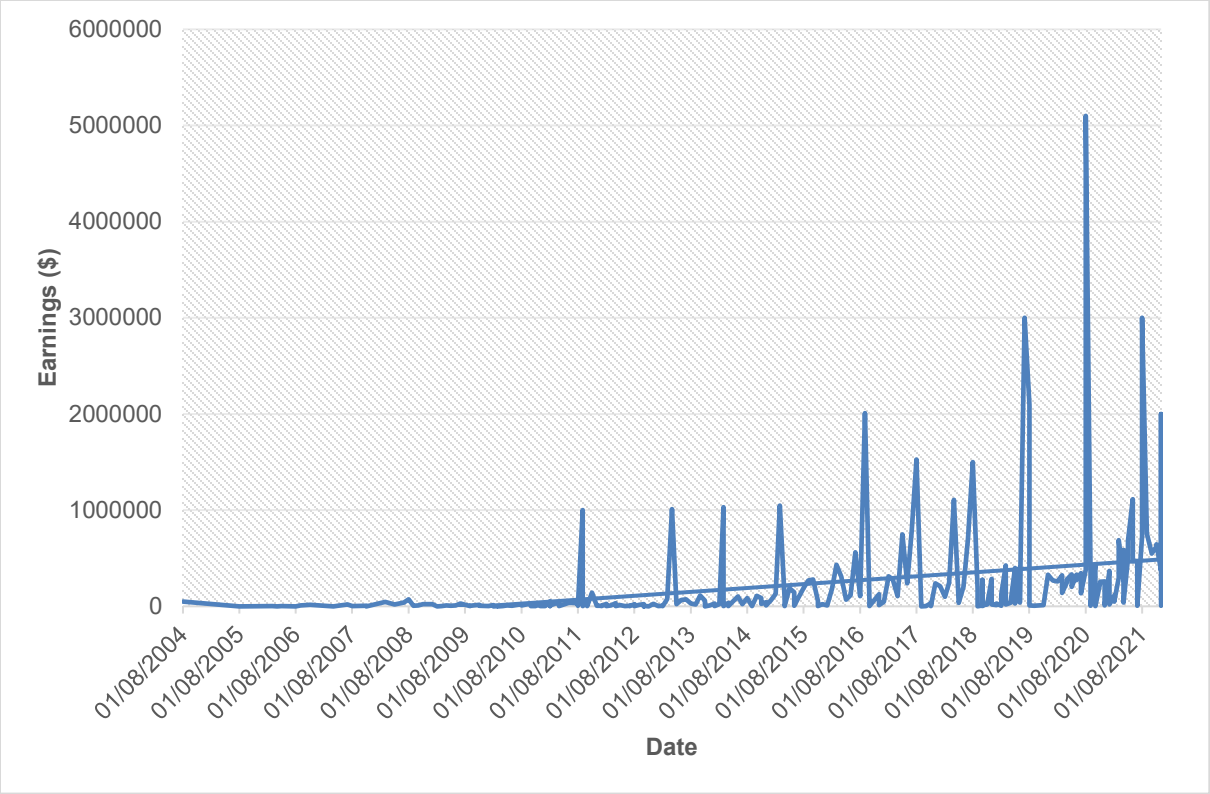


Figure 6.8

Call of Duty events - prize money evolution



An important consideration to frame the evolution of esports events is the number which take place each year. Call of Duty, Overwatch, Fortnite and Dota 2 all have significant peaks in 2019, which, as seen in figure 6.9, was an above average year in terms of the number of events. All four also had a reduced level of prize money in 2020, which had a below average number of events. The average prize money awarded for these events is also worth considering, seen in figure 6.10. This follows a similar pattern to the total number of events, but in 2020 and 2021 when the number of events decreases, the average prize money recovered after an initial decrease in 2020, reaching its highest point in 2021. Another significant impact within this and the dataset considered

previously is the impact of increased professionalism in esports. With more prize money being awarded, more competitors can devote their time to an esport.

Figure 6.9

Number of events per year

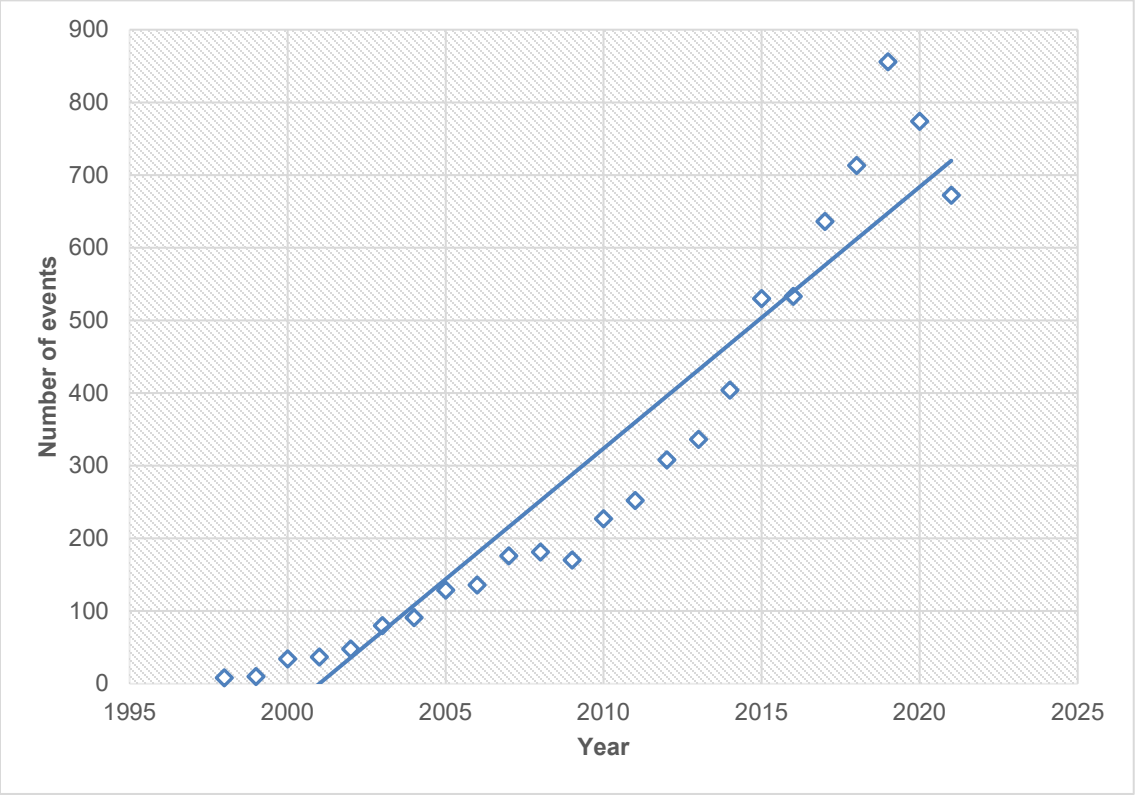
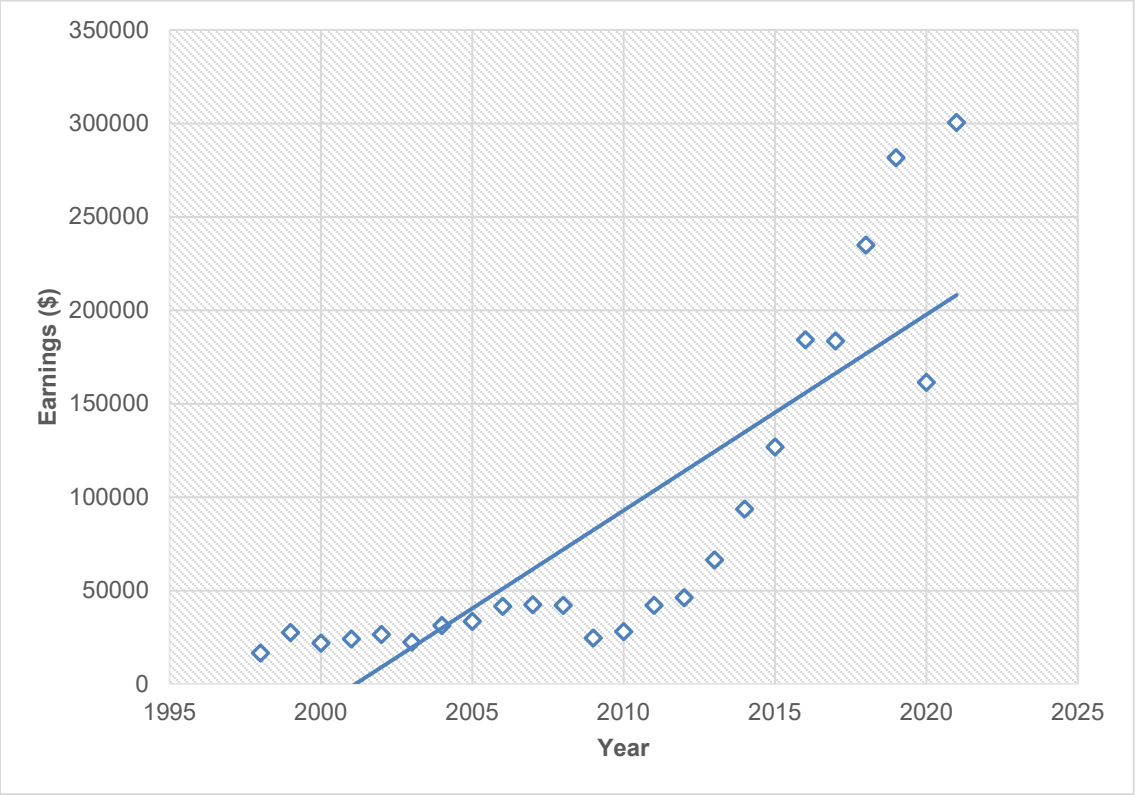


Figure 6.10

Average prize money per year



Also significant for this dataset are the number of events with zero or close to zero prize pools. Just under 3,600 events of the 7,342 included have prize money of less than $10,000, and around 2,000 events have prize money of $1,000 or less, and close to 500 less than $100 or less. These events are not just towards the beginning of the dataset and are distributed throughout. This illustrates a significant trend within esports, where events can be official and part of an official esport, but be very small, in each of the measures outlined in chapter 4. There is also a branch or form of esports which lies outside the boundaries of institutionalised esports, where players compete against each other for money by betting on themselves. Virgin Gaming released a subscription-based

platform in 2013 where video gamers compete against each other across a range of games, which displays how long this type of competitive gaming has existed (Sarkar, 2013). In addition, in the competitive scene within Fortnite, there is an increasing amount of ‘wagers’ placed by players on their own performance, where players bet directly against each other outside the scope of the official esport (Peskett, 2020). Call of Duty has a similar system, where players bet on the outcome of their game against other players, although this system has some acknowledged issues, such as players not paying their wage after a game is completed (Bernal, 2022). This type of system is illustrative of two things. One, it shows the innovation and diversity that exist within esports regardless of the business model associated with an esport, and two, this illustrates the direction in which esports is heading, where community or individual organised esports events become more and more popular. The implications of this are that more organised and professional events become less popular. As explained by Taylor-Hill (2022), “As gaming becomes increasingly accessible, esports is being exposed more and more to the outside world. If we look back several years, esports betting was a niche concept confined to the darkest recesses of betting sites. Today, it’s a household practice that is recognised and openly acknowledged by bettors from every proficiency and vertical.”

6.3.6 Limitations of method employed

One of the limitations that can be drawn from the analysis undertaken in this chapter is that the labels widely used by the video game and esports market (F2P, B2P, P2P) are

not adequate. It is rare for a popular game to have just F2P elements, or just require one initial payment as with B2P. These labels, as suggested previously, should be disregarded or at least placed on a continuum. Another limitation related more to the practicalities of the analysis undertaken, is that the dependent variable considered (event size) is likely to be influenced by a host of factors, many of which are unlikely to be accounted for in the model developed. Besides, it is difficult to guarantee that the data are truly independent. For example, it could be theorised that prize money is linked with in-person and online attendance, with higher prize money being publicised more widely and leading to more interest generating more viewers. The relationship between event size and business model may also not be linear. For example, the initial hypothesis was that P2P would have the smallest events, followed by B2P then F2P. If the relationship was non-linear, the linear regression ran would not be capable of analysing the relationship effectively. However, this was accounted for in part by running multiple regressions of different types, which did not reveal any additional insight.

6.4 Conclusion

This chapter looked at the impact of the business models in video games on the size of the esports which are created from them. Regressions were run to explore these impacts, with F2P and B2P having a larger impact compared to P2P. This could be due to a number of factors, for example the decreasing popularity of a single-game P2P

system as opposed to a multi-game system, the increasing popularity of F2P and the unsuitability for the P2P framework for esports. The P2P events included in the dataset mostly scored at 0 as minor events, or in the case of WoW, 3, also minor events, with the difference caused by increased attendance of these particular events. The impact of F2P events is certainly seen, particularly so with the rise of games like Dota 2, LoL, and Fortnite. B2P models still have relevance through titles like Overwatch and CoD, but these titles are diminishing in influence. For Overwatch, this is partly due to inactivity of the esport event and partly to lower player numbers. For CoD, this relates to mismanagement of the esport league and a comparatively low number of watchers compared to players. The finding that the impact of B2P is comparable to F2P is unexpected but is explained by the included B2P events having numerous flagship events like the Overwatch League Finals in 2019 and Call of Duty League Championship 2020.

It could be theorised, based on the analysis undertaken in the discussion section, that esports events may have reached a peak or a plateau in terms of prize money and number of events per year. This data covers a wider range than the data used in chapter 4 to consider the size of esports events, with a total of 7342 individual events. While there is a recovery in the average prize money, the number of events decreased in 2021. This also represents a significant trend, namely that COVID considerably affected esports. This is possibly surprising with the increase in popularity in esports during the Coronavirus pandemic, with the LoL series commissioner reporting their events were “supercharged”, and they recorded the highest viewership figures in 4-5

years (Haider, 2021).

Another significant trend not necessarily captured effectively here is the aforementioned impact of mobile gaming. As explained previously, mobile gaming accounted for almost 50 percent of video gaming revenue worldwide in 2020 and is underrepresented and uncaptured in the initial dataset used. Mobile gaming and mobile esports has seen growth, with a number of more traditional PC or console esport titles releasing mobile versions like the previously cited PUBG Mobile, LoL mobile and more recently Apex Legends Mobile. This is an example of how the esports landscape is changing. In general terms, more events are taking place, with smaller and in some cases 1-vs-1 events becoming more popular. Future research can consider this by broadening or clarifying the definition of esports events to capture the effect of these micro-events more specifically, which are being overlooked by current frameworks. The increased marginalisation of single-game P2P models can also be studied, with only a handful of examples remaining and any associated events being smaller. Finally, as identified by the inclusion of Edition, the pattern of repeated events becoming increasingly larger could be examined. The consummate example is Dota 2 with its season ending TI events seeing larger and larger prize pools, in-person and online attendances and corresponding sizes as the event takes place repeatedly. This can only continue for so long, and it is worth asking the question of whether Dota 2 and its flagship event is unique or not.

7. The consequences of a switch to free-to-play for Overwatch and its esports league

7.1 Introduction

The aim of this chapter is to examine whether Overwatch can transition to F2P and the potential implications that such transition would have on its associated esports. These are important issues as Overwatch and its associated esports represent a significant population of players and viewers, and a change of business model would impact this population. Furthermore, developing a framework to assess relevant criteria based on recent, appropriate, and complementary sources can also open the door to extend findings and discussion of this article to other videogames and their associated esports. The framework presented in the methodology (see 3.4.4) is now applied to Overwatch.

7.2 Results

7.2.1 Application of Massarczyk, Winzer and Bender: the pros and cons of F2P vs. B2P for Overwatch

Massarczyk et al. (2019) explore the potential business models a publisher could pursue based on what model best fits each game, and which model promises the best financial returns. Their research can be considered significant as one of the only examples of trying to survey the whole industry and the variety of available models. The advantages and disadvantages of the three most prominent models are considered,

while also developing a ranking system to establish a method of comparison. It is identified that despite increasing complexity, more competition and development costs increasing, prices for video games remain stable, meaning videogames struggle to break even (Massarczyk et al., 2019). However, this presents some issues. The “self-developed evaluation system” lacks a level of analysis, with generalised statements made without providing examples or evidence, such as “In the B2P model, only one-off revenues are generated, there is no possibility of current income (valuation = 0)” (Massarczyk et al., 2019:483). Nevertheless, the system provides valuable insight into the nature of the business models outlined. As such, it is taken forward.

The point is made that regular payments are better than one-off payments, which is a negative for Overwatch’s current model, which is B2P with one initial payment. This payment has varied, averaging around £11.50 with some variance between platforms (PC/Xbox/PlayStation) (PriceSpy.com, n.d.). While these payments are always one-off, it could be argued that Overwatch has a system closer to that of a F2P game already. It has a heavy focus on regular cosmetics being added to the game, encouraging players to spend money on in-game currency. However, this system has been accused of being “out of touch” due to focusing on randomised loot boxes rather than a battlepass[4]-like system seen elsewhere. This is where boxes are opened, and currency is spent to

[4] A battlepass is a form of monetisation and offering items in a game where more rewards are gained the more a player plays a game. This can be through completing challenges or through playing more. Most commonly associated with Fortnite.

purchase items and additional boxes. Overall, it could be seen that Overwatch and its obtainment of payments would lend itself to a F2P model with some adjustments.

The second consideration by Massarczyk et al. (2019) is about customer data. This is seen as valuable due to the ability to cross-sell to existing users, and to sell data to third parties. Given Overwatch is a B2P model, it would not be valued highly due to minimal customer data being collected due to minimal information. On the other hand, it is hard to determine potential gains or changes to be made with regards to customer data with a switch between B2P and F2P or P2P. As such, it is difficult to assess whether a switch to F2P would be a positive move on the customer data dimension.

Another criterion explored by the authors is compulsory permanent internet connection, where a user would have to stay connected while using the game. The authors give three reasons for this being beneficial: software piracy can be prevented, additional content can be provided more easily, and individual behaviour can be recorded (Massarczyk et al., 2019:484). Overwatch does not require connection, but all its central modes are focussed on player vs. player interaction, which does require online connection. In this regard, Overwatch is well suited for a F2P model, as it is usually accepted part of the ‘free’ content is a permanent internet connection.

The next criterion considered by Massarczyk et al. (2019) is the in-game shop, which is an area to be seen as both a strength and a weakness for Overwatch. Its lootbox-based system is popular, and by 2019 had generated over $1bn in revenue (Moncav, 2019). The system has a link with Overwatch’s esports system, with a different currency

available to purchase for team-specific skins[5], while the currency is also earned when watching matches in Overwatch's esports league. On the other hand, the lootbox system is often accused of being a form of gambling, or at least to encourage it, and it is often argued that a B2P system should not need loot boxes (Parker, 2020). Based on this, Overwatch would be again well positioned for a switch to F2P.

Ongoing costs are considered due to the importance of how long it makes economic sense to continue operation of a game. There will be a time where ongoing costs outweigh ongoing revenues, and this will vary depending on the type of game, and the payment model employed. As explained by Massarczyk et al.(2019:485), "In a single-player video game, there is no "real" economic lifespan, as such a game could usually be played on almost "indefinitely". This is then split into three sub-criteria, namely ": (a) provision of servers for continuous gaming, (b) provision of patches[6], and (c) provision of further content". These criteria are entered into a table to compare the three types of model, seen in Figure 7.1.

[5] A skin is a cosmetic item which changes the way a player's character appears in-game, sometimes with no functional benefit but usually with only cosmetic impact

[6] A patch is an update, changing part of a game without requiring a whole new download

Figure 7.1

Criteria for long term business models (source: Massarczyk et al., 2019: 485)

Criteria	B2P	P2P	F2P
Server availability	1	0	0
Provision of patches	0.5	0	0.5
Provision of content	0.5	0	0.5
Sum	2	0	1
Mean	0.67	0	0.33

Considering these three sub-criteria, Overwatch is perhaps in a strong position to offer strong server availability as it runs on a platform alongside other games which are among the most popular (Call of Duty, World of Warcraft, StarCraft). Thus, there is likely some synergies to be gained. Provision of patches is something which has not been an issue with Overwatch, with regular patches and patch notes, and a test server to iron out issues. Nevertheless, the regular provision of content is a problem, with the developer working towards a sequel rather than continuing development, causing discontent (Holt, 2021). There are cosmetic updates issued regularly. Overall, Overwatch sits between F2P and B2P rather than seeming a classic B2P system, meaning that a switch to F2P would not be as radical as one may initially think.

Advertisement is the final consideration for Massarczyk et al. (2019), as advertising revenue can be generated by advertising in-game, thus improving profitability.

Nevertheless, there could be issues in terms of player acceptance, and advertisement may interrupt the flow and intensity of the game. Overwatch does not have in-game advertisement. However, it is uniquely positioned to offer advertising via its esports league, which has high-end sponsors and high-profile owners. Also, it has a potential to gain more players and buyers of the game through the publicity gained, and more high-level players to join the esports. Conversely, it could be questioned how much revenue Overwatch gains from its esports system, and it has some acknowledged issues such as those outlined by Castello (2020). Advertisement may result in an overall positive impact, depending on the success of Overwatch League.

Each of the elements outlined by Massarczyk et al. (2019) are summarized and applied to Overwatch in Table 7.1. Overall, they support a move to F2P.

Table 7.1

Massarczyk et al. (2019) application to Overwatch

Element	Application to Overwatch	Support a switch to F2P?
Obtainment of payments	Currently one payment collected at initial purchase, with optional in-game purchases. No ongoing subscription-based payments	Yes – system in place to obtain payments via in-game purchases
Customer data	Some data likely to be connected, but extent unknown	Unknown
Compulsory permanent internet connection	Compulsory internet connection for multiplayer	Yes
In-game shop	Set-up will potentially change from lootbox to battlepass system (Searl, 2020) which would support a F2P model	Yes, more so if a battlepass system
Ongoing cost	All three criteria outlined are fulfilled	Yes
Advertisement	Advertising depends on the success of Overwatch League	Unknown

7.2.2 Application of Luton: additional pros of F2P and whether they could apply to Overwatch

One of the most comprehensive statements around the F2P structure in videogames is developed by Luton (2013), who provides a well-constructed account around the business considerations of F2P games that are complementary to the ones provided by Massarczyk et al. (2019). Much justification can be drawn for the research being

conducted. A few examples are given, specifically related to mobile gaming but still applicable:

> "When in-app purchases finally made their way to the App Store, we tested the waters by adding a few purchasable themes to Scoops (our most profitable game at the time) and making it free. Again, people thought we were crazy, but the game ended up making the same amount of revenue as when it was a for-purchase game and generated ten times the audience" (Luton, 2013:8).

This shows how a shift from a P2P to a F2P model can create opportunities. The point is also made that "having a much larger fan base and exponentially larger word-of-mouth marketing for our games because they are free are valuable benefits" (Luton, 2013:9). Justification is also offered for how to encourage players to come back, how to monetise, and how to understand and serve players. These characteristics have implications for this chapter as they can be used to establish the suitability for Overwatch pivoting to a F2P system.

Luton (2013) considers F2P games in an informal, casual way, but aims to synthesise knowledge about F2P and explain how the system works. In doing so, he indicates areas of concentration and consideration which can be related to Overwatch, namely: Economic considerations, Gameplay, Monetization, Analytics, Marketing. Each of these elements are considered and related, looking at the context outlined by Luton (2013) and applied directly to Overwatch. This method does lack a degree of scientific rigour, with no consideration given to bias, methodology, analysis or interpretation of the

author's own presented results, with an inevitable subjective tone adopted. This, however, seems to be the aim, with a focus on an informal tone presenting more as an instructional guide to F2P than a full scientific analysis. Despite this subjectivity, it was decided to retain the criteria identified for the present analysis due to their complementarity with the two other sources and methods selected.

Economic considerations around F2P are about how to make profit out of a free product. The point is made that advertising, product placement and merchandise are all key to making profit, but in-app purchases are "king of them all" (Luton, 2013:11). In this way, Overwatch is well positioned to capitalise, as raised previously. It does not offer any of the first three sources of finance in its core game, but the esports system is well positioned to offer at the least a high level of advertising and merchandising, with less emphasis on product placement.

Gameplay is also suggested as a key component of F2P. The aim is to keep players coming back, via three levels of incentives: minute-to-minute loops of repeatable actions, hour-to-hour loops of gameplay, and day-to-day with motivations and goals keeping players interested such as rewards and upgrades. This system relies on four elements: social, competitive, achievement and exploration. While it is difficult to judge the exact measure of players that return to Overwatch either in the short or long term, these four elements can all be seen in Overwatch. The competitive element of the game relies on social communication and grouping up, they are shown to all players in their season rank, the achievement is contained within the gaining of higher tiers of rank

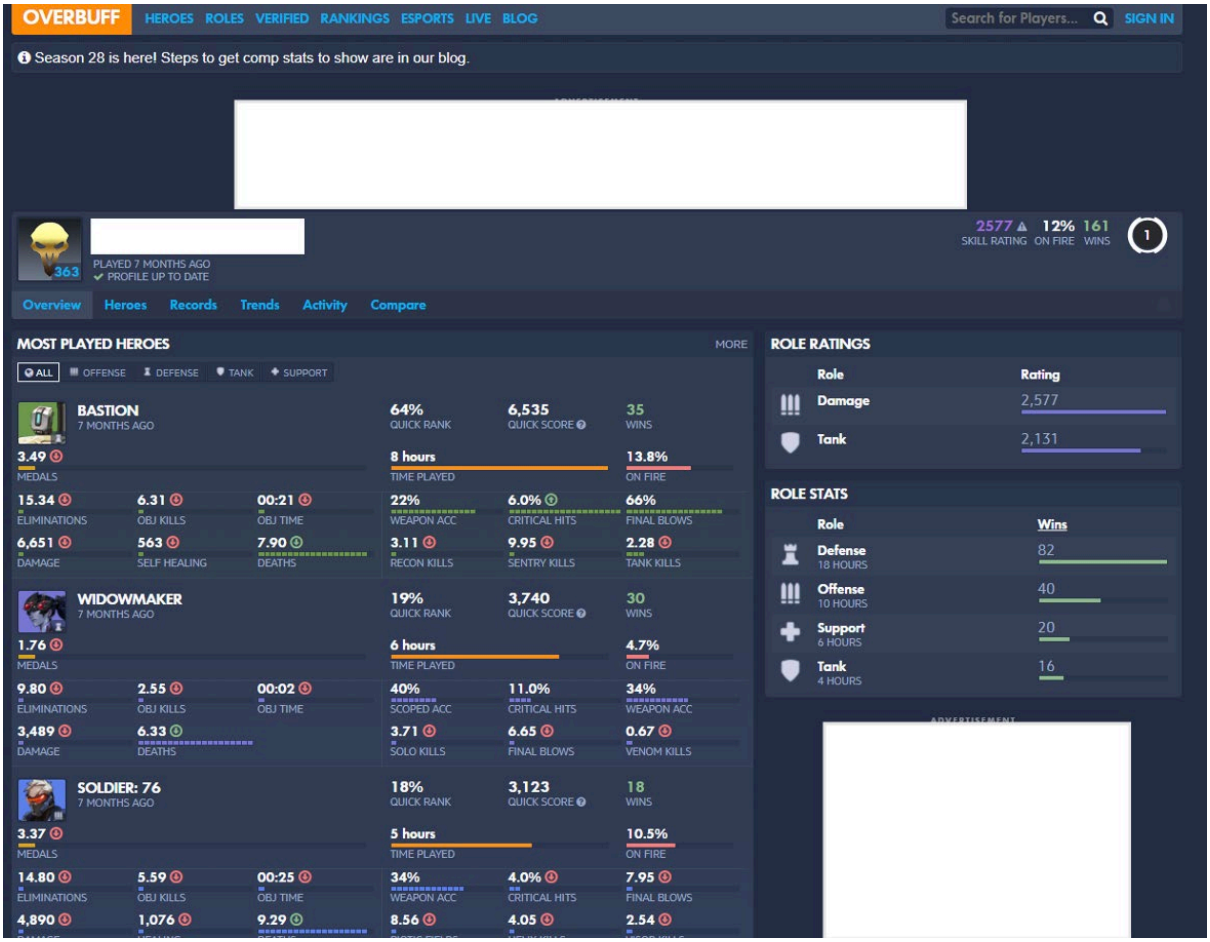
(gold/diamond, etc.) and exploration can be seen in new maps being introduced to the game.

Monetisation is considered next by Luton (2013). Four types of monetisation are suggested: content, convenience (anything that skips players ahead), competitive advantage and customisation. Overwatch, with its current system of randomised loot boxes, is an effective way of monetisation, but does not specifically align with its B2P model. These loot boxes are exclusively about customisation, offering no convenience or competitive advantage, and nothing else within the game does either. This is an approach often embraced by games with an eye on encouraging an esports scene, like Counter Strike: Global Offensive (CS:GO) or Valorant. There is no additional content offered for money either by Overwatch. These areas could represent a way of offsetting any cost or opportunity cost with a switch to F2P.

The final two elements outlined are Analytics and Marketing. Analytics is explained as using in game statistics to inform decisions, like when the game should be released or what type of in-game advertising should be used. It is difficult to discern the exact level of analytics undertaken within Overwatch. However, websites such as Overbuff.com offer an insight into the level of data collected by the publisher, with basic information including wins, kills and deaths, but also character-specific information at a granular level like in-game accuracy of specific abilities and number of kills while in a specific form during gameplay. It is not possible to judge if or what this information is used for, but it is all collected in the source code of Overwatch (see Figure 7.2 for an example).

Figure 7.2

Example of data presented by third party website collected from Overwatch



Source: Overbuff.com (n.d.)

As with Analytics, Marketing and its impact and importance to Overwatch is difficult to judge. Luton (2013) proposes a number of techniques to incentivise players, including viral marketing, encouraging players to gift to friends and introducing challenging elements. Given it is a part of a larger holding company, Activision Blizzard, which is one of the largest videogame publishers globally, it is known that it has a large

marketing budget of over $270m per year (Statista, 2021). However, it is not known how this budget is employed.

7.2.3 Application of Seidl et al. (2018): the pros and cons of a switch applied to Overwatch

There is little research undertaken about a publisher switching a game from one payment system to another. Yet, there is a relevant research paper by Seidl et al. (2018), who create a quantitative theoretical model considering a subscription-based system and a F2P system. The focus of the switch between systems is based on revenue derived from those who use the game heavily, with the optimal situation depending on a number of factors, including “how rapidly casual users escalate to this more intense playing state, the willingness of users to pay for additional content, and the costs of changing the business model” (Seidl et al., 2018:714). The biggest advantage of the F2P model is identified as being that it can attract higher levels of new players initially, due to the lack of initial purchasing costs. As a result, “if the initial willingness of players to pay for additional content is low but general interest in the game is high, then it is optimal to start with a subscription model and then switch to F2P later at an optimally determined time” (Seidl et al., 2018:714). Costs of switching are also identified, with the need for some adaptations in software and hardware development. This has implications when switching systems. For example, if costs are too high, a switch cannot take place and if there is a lack of heavy users, the necessary costs of switching cannot occur. Other significant findings are that advertising is

particularly effective in F2P models; and if games do not have a flow of players consistently converting from casual to heavy, a subscription-based model is better suited. This research can be used in the applied context being considered in this chapter relating to whether Overwatch is suitable to be switched from B2P to F2P.

Seidl et al. (2018) develop a framework which considers different business models in the video game industry, and the willingness of players to pay for content. As a part of this model the authors identify a list of criteria to either strengthen or weaken the possibility of a switch between systems being optimal. The model developed considers specifically a switch from a subscription-based system to a F2P model, meaning some of the conclusions cannot be applied to a switch between B2P and F2P, as would be the case with Overwatch. Yet, the parameters identified are considered qualitatively to assess how they would impact on the switch, and whether they would suggest it to be beneficial. One potential issue with the model employed is the level of generalisation undertaken. Videogames are heavily influenced by marketing and advertising, as well as trends. As explained by Faber (2021) there are numerous games which have increased in popularity solely due to being viewed on platforms such as Twitch and YouTube. These games provide numerous examples of potential anomalies which are incompatible with the logic required for the research to function. However, these dimensions are controlled for in the two other sources and methods used. Besides, the model developed by Seidl et al. (2018) does add to these two other methods, hence why it is considered here.

The variables considered are outlined in Figure 7.3, before being applied specifically to Overwatch in Table 7.2. State variables describe the mathematical state of a model, control variables what is being held constant during investigation using this model, and parameters are used to define the conditions and limits of what is being investigated. In this way, the state variables used, heavy and light users, are observed during the switching process from B2P to F2P in this model, the control variables are not changed as to not influence the model, and the parameters are adjusted, varied and measured to investigate whether a switch would be beneficial. When considering Table 7.2, there are many unknowns due to restricted access on the required data. Thus, it is difficult to evaluate whether the application of Seidl et al. (2018) to Overwatch supports a move to F2P overall. However, a few specific points can be drawn which provide justification for a switch between B2P and F2P for Overwatch.

Figure 7.3

Seidl et al. (2018) decision variables and parameters

Decision variables and parameters.

State variables	
L	Number of "light" users
H	Number of "heavy" users
Control variables	
p_1	Subscription fee
p_2	Unit price for a virtual good
a	Advertising rate
T	Switching time
Parameters	
C	Switching costs
b_i	Inflow rate to heavy users (degree of addictiveness) in Stage i, $i = 1, 2$
c_i	Advertising costs in Stage i, $i = 1, 2$
d_1	Initiation rate if the subscription fee is zero
d_2	Flow to heavy users if the unit price of a virtual good is zero
d_3	Demand of virtual goods if the $p_2 = 0$
g_i	Price related quitting rate of heavy users in Stage i, $i = 1, 2$
v	Price related quitting rate of the light users
q	Price independent quitting rate of the light users
δ	Price independent quitting rate of the heavy users
γ_0	Diffusion related initiation rate
φ_i	Weighting factor for the impact of the price $i = 1, 2, 3$
r	Discount rate

Table 7.2

Application of Seidl et al. (2018) to Overwatch

Variable or parameter	Relation/link to Overwatch	Support a switch to F2P?
State variables		
L Number of "light" users	10m monthly users	Likely yes
H Number of "heavy" users		Likely yes
Control variables		
p1 Subscription fee	No subscription fee	N/A
p2 Unit price for a virtual good	Various	N/A
a Advertising rate	$270m per year	N/A
T Switching time	Unknown	N/A
Parameters		
C Switching costs	Assumed to be marginal	Likely yes
bi Inflow rate to heavy users (degree of addictiveness) in Stage i, i=1,2	Unknown	Unknown
ci Advertising costs in Stage i, i=1,2	Unknown, could be amalgamated with the existing marketing costs	Likely yes
d1 Initiation rate if the subscription fee is zero	Unknown, assumed to be higher than zero	Likely yes
d2 Flow to heavy users if the unit price of a virtual good is zero	Unknown, assumed to be higher than zero	Likely yes
d3 Demand of virtual goods if the p2=0	Unknown, assumed to increase	Likely yes
gi Price related quitting rate of heavy users in Stage i, i=1,2	Unknown	Unknown
v Price related quitting rate of the light users	Unknown	Unknown
q Price independent quitting rate of the light users	Unknown	Unknown
δ Price independent quitting rate of the heavy users	Unknown	Unknown
γ0 Diffusion related initiation rate	Unknown	Unknown
φi Weighting factor for the impact of the price i=1,2,3	Unknown	Unknown
r Discount rate	Unknown	Unknown

Distinguishing between light and heavy users (L, H) is difficult. However, Blizzard confirmed that there were 10m monthly players in 2020 (Richman, 2021), which displays a level of longevity which could have an impact on a number of elements that relate to player numbers and demand (d1, d2, d3). This will also likely have an impact on addictedness and the level of quitting (bi, gi, v). Overwatch is also well positioned for a successful switch to F2P if the situation with its virtual goods is considered (p2). Overwatch has various options for in-game purchases. Two loot boxes cost $1.99, up to 50 loot boxes for $39.99. This system has helped generate over $1bn in revenue from in-game purchases alone. Activision-Blizzard, the publisher for Overwatch, has five other titles which have reached this point, two of which are F2P, namely Hearthstone and Candy Crush (Bailey, 2019). Table 7.3 displays an analysis of the three models used.

Table 7.3

Summary of seminal research employed

Titles	Authors	Methodology	Primary findings	Limitations
Economic Evaluation of Business Models in Video Gaming Industry from Publisher Perspective	Massarczyk, E., Winzer, P. and Bender, S.	Catalogue of criteria is used for analysis including costs and revenues of video games. Results for each of the business models are summarized in a combined index.	F2P is seen as the highest ranking in the model developed from a publisher perspective. Traditional business models (B2P, P2P) are unattractive, to a lower extent for B2P. P2P is seen to have high running costs and limited potential revenue.	Lack of in-depth analysis, lack of evidence and examples.
Free-to-Play: Making Money From Games You Give Away	Luton, W.	Qualitative and narrative method, considering economics, gameplay, monetization, analytics and marketing.	F2P is seen as "better" as players can decide on how much to spend, more people can access the games.	Lacks scientific rigour, no real method explained or used. Subjective considerations.
Serious strategy for the makers of fun: Analyzing the option to switch from pay-to-play to free-to-play in a two-stage optimal control model with quadratic costs	Seidl, A., Caulkins, J., Hartl, R. and Kort, P.	A two-stage optimal control model analysing a switch between business models. Stage 1 considers a subscription business model, Stage 2 considers a microtransaction or F2P business model.	Optimal model depends on numerous factors such as how rapidly casual users escalate to this more intense playing state, the willingness of users to pay for additional content, and the costs of changing the business model.	Large amount of generalisation undertaken. Logic used to develop the method does not fully make sense when applied to videogames.

7.3 Discussion

The results are supportive of a move from B2P to F2P for Overwatch, although there are some uncertainties around the variables of the switch. There are also a number of additional points which should be addressed regarding the potential shift to F2P for Overwatch. For example, the game has been given away for free in the past. McWhertor (2020) explains that Overwatch was given away by Boston Uprising, one of its esports teams, for a few months. This was short-lived and cancelled early “due to high demand”. In addition to this, Overwatch has had multiple free weekends where “you may access Overwatch as though you owned the game” (Blizzard, 2021). Both of these are examples where the game has been given away for free. However, both are not examples of the game being fully F2P. The F2P weekends are time-limited, with a requirement to purchase the game to continue with the progression unlocked. Also, these weekends would only be focused on those currently without the game, where a switch to a F2P system would affect all players. The handout of copies by Boston Uprising, similarly, was small in scope, and stopped prematurely without the intention to be a full scale F2P transition. Other points are considered in this discussion around the current popularity of Overwatch compared to relevant F2P games, and the impact on esports.

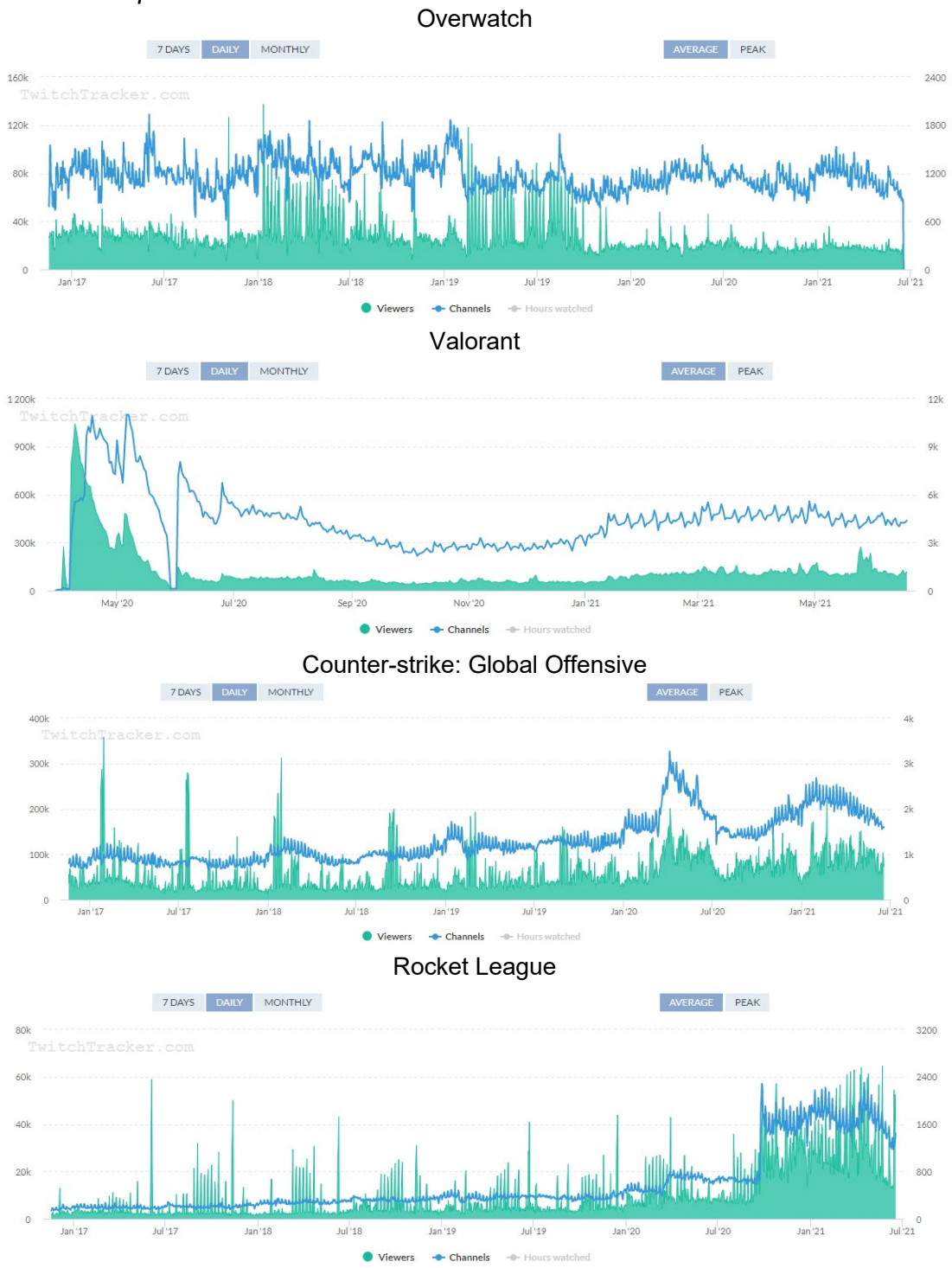
7.3.1 Overwatch popularity vs. relevant F2P games

One key point to consider when contemplating potential transition for Overwatch is whether or not it is likely to benefit. On one hand, it could be argued that the Overwatch

community is still thriving, casting potential doubt about the opportunity of transitioning to F2P. In 2019, it was reported that Blizzard made over $1bn in lootbox transactions alone from Overwatch since its launch (Castelot, 2019). Miller (2020) reports that Blizzard has posted better than expected earnings despite the COVID-19 pandemic, and stated that Overwatch has over 10 million monthly players. This is compared to, for example, CS:GO having 26.2m players in May 2020. It is difficult to obtain accurate data on the popularity of any game published by Blizzard as they do not announce regular figures on player numbers, but a measure of popularity can be gained by looking at Twitch viewership (Figure 7.4).

Figure 7.4

Twitch viewership statistics



Source: Twitchtracker.com, (n.d.)

Overwatch sees regular cyclical fluctuations, with a consistent average over the game's lifetime, but it could be argued that the audience size has stagnated. However, when compared to Valorant, a similar, competitive team focused F2P game launched more recently, there has been a sustained drop off in popularity, decreasing from its launch to a low point of around 50,000 total viewers in November 2020. On the other hand, CS:GO has been operating for a much longer period of time, and also established itself as a popular esports. Viewership has remained relatively consistent over time, seeing a significant rise in early 2020. Both of these games are F2P but have differing experiences; CS:GO was initially B2P so could be used as a model for Overwatch on how to transition to a F2P system.

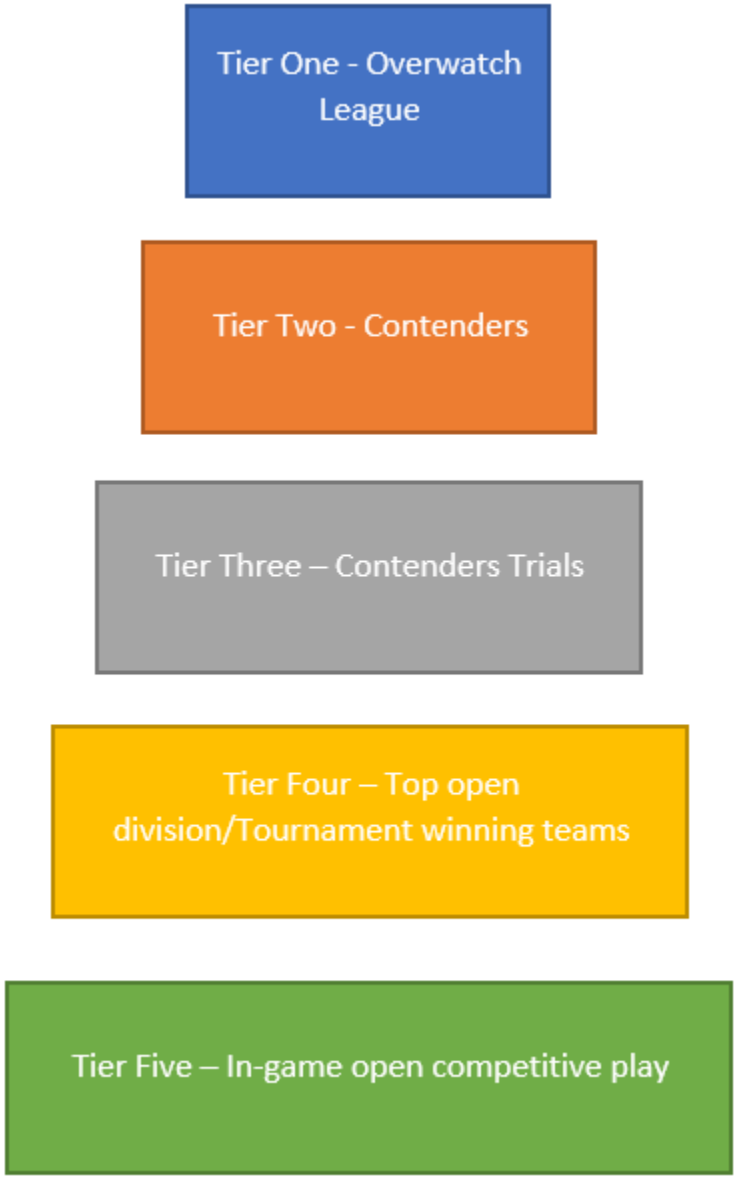
7.3.2 Impact on esports

Overwatch is widely considered as one of the most significant esports, with franchises worldwide, large companies like Budweiser, Coca-Cola, State Farm, Kellogg's, Toyota, and T-Mobile sponsoring events (Stern, 2020). Broadcasts have also featured on ESPN and team owners include Robert Kraft and Stan Kroenke (Wolf, 2018). Viewership often peaks around large events. The in-game competitive system was likely developed with a focus on esports. Players see after every match exactly how good they are in the form of a numerical ranking, with those excelling knowing so, and being more likely to advance. Overwatch also has a robust framework for progression within its esport, with four tiers (see Figure 7.5). Open Division is a competition of amateur teams and players, allowing them to compete formally. Teams or players can then move up into

Contenders, which, as explained by Garst (2019), runs as a minor league to Overwatch League. This offers an opportunity to develop from a casual, amateur player to a professional playing at the highest level. However, Garst (2019) highlights that there are fundamental issues with the Contenders, outlining that any two-tier system should be aiming to develop and shed light on talent. A confusing mix of academy and unsigned teams with different approaches towards competitiveness coupled with restrictive rules around sponsorship result in a failing system that fails to perform effectively.

Figure 7.5

Overwatch Tiers



Source: Powerhaus Gaming (2018)

Overwatch has outlined a roadmap for 2021 and the fourth season. There have been changes to the structure due to COVID-19 related travel restrictions, but the league intends to develop and expand. However, there are some issues with the foundation of Overwatch esports. The three formal competitions have seen withdrawals and negative changes. For example, Team Envy's dissolution of their T2 team, alongside ten other teams who have disbanded their T2 teams. Contenders has arguably gone from a robust competitive league to struggling to fill all of its positions.

Arguably, embracing a F2P system could benefit Overwatch esports significantly. Switching to F2P, as shown in the popularity of Rocket League after its switch, would likely create an increase in the number of players. An increased number of players would result in more players entering T5 the competitive play within the base game. This would then feed into T4, T3, T2 and T1, as more active players would provide a larger pool of talent to draw from for the professional T1 and T2 leagues. It could be argued that the largest esports in terms of player numbers, audience size and prize money, namely DOTA 2, League of Legends and Fortnite, all being F2P, could provide enough justification alone for Overwatch to complete the switch . Furthermore, Macey et al. (2020) prove that watching intention fuels both gaming and buying intention. In turn, this could justify how Overwatch could transition to F2P while maintaining profitability for the publisher if embracing a modified microtransaction-focused system.

7.3.3 Limitations of method employed

There are a number of implications for the methods utilised during the consideration of Overwatch. The analysis was undertaken just prior to a structural shift in Overwatch, from B2P to F2P, meaning the initial insight drawn is no longer valid for Overwatch, although the theory devised as a result is still applicable to other video games. This switch from B2P to F2P is likely to have a significant impact on all aspects of Overwatch and OWL, but the effects of this will need time to be seen. Even after this amount of time, a true measure of the success of the switch undertaken is likely to be difficult to make based on publicly available information, with the aforementioned difficulties with finding figures for player numbers for Activision-Blizzard games. Finally, the method used, namely a review of the literature to identify relevant contributions on video game business models, is limited to the currently available body of academic research. This research is not extensive but does contain enough to make the judgement shown in chapter 8. This literature also does not afford due consideration to esports, despite this being at the centre of decisions around video games and their business models.

7.4 Conclusion

This research aimed at evaluating the opportunity for Overwatch to switch from a B2P to a F2P model and the impact on its associated esports. It presents the caveat of not being an all-encompassing study of every possible route for the future of Overwatch. Instead, it is more an exploratory consideration of how Overwatch could transition to enhance the system currently in place. Looking forward, this exploration could be

generalised and applied to other videogames and their associated esports, with the same model being adjusted for contextual differences.

Based on the analysis undertaken in this study, it is likely that a transition to F2P would be beneficial. This relies on the assumption that the transition would at least apply to the initial release of the game (Overwatch), with an option to continue with the B2P model for the sequel (Overwatch 2). The switch would also benefit Overwatch esports due to a potential increased number of players translating in more high-level players and, as such, an improved quality at the highest level. This would likely lead to a higher and/or more sustained viewership, which, in turn, would benefit Overwatch due to watching fuelling gaming and buying. It remains to be seen if the move will occur and, if so, if the virtuous circle described here would be confirmed.

8. Discussion & Conclusion

8.1 Introduction

This thesis attempted to contribute to a nascent field of research during a time when the field is still forming and evolving. By using a sequential, mixed methods approach, a higher level of rigour was reached (e.g., index in chapter 6 allowing to check the robustness of the classification built in chapter 5), and generalisability is wider while the unique nature of esports is still accounted for. This chapter will begin by revisiting the research questions in order to discuss the corresponding answers to each. The limitations of each chapter will be explored in detail, before the contribution to the field of research are examined. The contributions of the thesis will be examined through various lenses, including the field of study, theory and methods, and an external perspective to assess its potential impacts beyond the domain of esports events. Prior to making recommendations for practice and exploring potential future research, broader discussions will take place regarding esports and esports events while remaining pertinent to these events. Finally, concluding remarks will be provided.

8.2 Answering research questions

8.2.1 Addressing and exploring the research objectives and aims

The research aims of this thesis were:

- To explore and assess the components of the size of esports events

- To evaluate the impact of the business model of a video game on the size of its associated esports events

The three research questions and their answers, as a result of the research aims, will now be considered alongside the objectives which address each of them:

8.2.1.1 RQ1: Which factors should be part of a classification of esports events based on their size and how to score them?

- Factors identified through review of the literature (Müller, 2015) include: online attendance, in-person attendance, prize money, and Flyvbjerg (2014)'s sublimes: political, technological and aesthetic.

- Scoring was determined through existing data and informed by the literature review.

- An index was constructed to verify the classification developed.

The first objective of this research, based on the previously outlined research question, was to provide better understanding of esports events and their size, and as such to develop a framework that could be used and built upon in the future. In relation to this, the research has explored esports, esports events, the definition of these events, and their sizes and characteristics. Factors which influence size were explored and identified through exploration of existing literature and influential studies conducted into traditional sporting events and mega-projects in general. This resulted in the answering of the research question filling a hiatus in the research while also remaining anchored to

existing literature. This literature helped with both establishing the factors which determined size and developing a system for scoring these events. Scores were identified first through examining ranges of data, then adapting the scoring system developed by Müller (2015) to determine a similar range of scores, from ‘Minor’ and ‘Major’ through to ‘Mega’ and ‘Giga’ events, similar to Müller’s system. The factors that determine these sizes were also inspired by Müller’s work, which after being translated to being relevant to esports became viewership, in-person attendance, prize money, and a score based on the work of Flyvbjerg (2014). The next stage of addressing the research question was the development of an index. The development of index had two purposes: 1) it acts as a robustness check for the classification developed, and 2) creates its own composite indicator that acts as a different type of measure of size, using the same factors. This comprehensively answered the posed research question, while being open for development in the future.

This research aim was addressed extensively across the analysis chapters of this thesis and to an extent in the literature review. Esports is explored in depth, first through the exploration of its definition then through more specific examples in the following analysis chapters. Esports events have not been explored in depth academically in prior research, and this thesis breaks ground in this respect, attempting to fill a gap in the literature around esports events. The specific definition of ‘esports events’ was not explored, but this is assumed to be self-explanatory and defined as any organised occasion where there is a formal structure contesting esports. This is shown throughout the thesis to cover a broad range of events and types of esports, tournaments and

structures. This includes anything from $0 prize pool, community organised one-off tournaments to multi-million-dollar season long events supported by large sponsors. This in turn provides justification for why classification of esports events adds value to the research area, because there is nothing established to provide a frame of reference for events that currently exist.

8.2.1.2 RQ2: How does the business model of a video game impact esports event size?

- Regression determined that F2P and B2P are associated with higher size than P2P.
    - This aligns with what would be expected, with F2P and B2P more prominent in esports.
    - P2P is seen as becoming more marginalised over time, and less important to esports as the other models. Most P2P events in the dataset scored zero or close to zero for all of the elements outlined.

The second objective of this research, based on the research question around video game and event size, was to explore the impact of the business model of a video game on the size of its associated esports events. Video game business models have been examined in prior literature, but the impact on their associated esports has not been considered, and this thesis attempts to address this shortfall. This research aim was

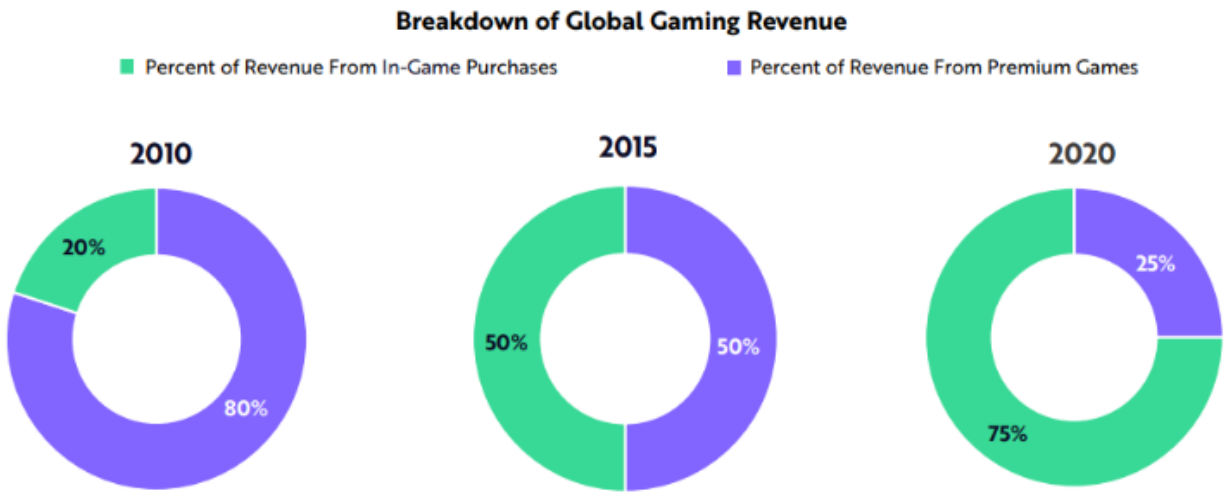
addressed through the consideration of the impact of business model on event size, via regression analysis. It could be theorised that more players would be beneficial for both the success of a video game and for its associated esport, but minimal research has been undertaken to analyse this. The types of business model are defined and explored, with examples and context provided for each of the three, before the research aim was addressed directly through regression exploring how much of an impact business mode type has on the size of esports events associated. F2P and B2P are clearly seen to have a positive impact on event size compared to P2P which reflects the popularity of F2P as a whole, the size of a handful of B2P events, and the waning popularity of the P2P model. An important point is made that the lines between business models are blurred and are becoming less distinct. It could be argued that the answer to this research question was influenced by external factors to the variables considered and the model built. Namely, P2P models have reduced in popularity over time since the establishment of a more professional esports environment, while F2P has increased dramatically.

F2P video games dominate contemporary esports, with noteworthy examples including CS:GO, Fortnite and LoL. B2P models are also seen to be significant, mostly led by CoD and Overwatch as two of the longest running and most significant esports. F2P games represented $98.4 billion or 78% of total digital revenue in 2020, an increase of 9% compared to 2019 (Valentine, 2021). There are a number of points that can be made around F2P and its growth. F2P is reliant on in-game purchases to fund the ongoing service and produce additional content, as discussed in chapter 8. This type of

in-game purchase is being seen as more and more important, with it being worth 20% of revenue in 2010, 50% in 2015, and 75% in 2020 (see Figure 8.1). This is being predicted to increase even further, to 95% by 2025.

Figure 8.1

Global video game revenue information



Source: Ark Invest (2021)

Given this dominance of in-game purchases, it is not surprising that developers are moving away from gaining revenue through monthly payments (P2P) or one-off payments (B2P). It is perhaps even less surprising that the lines between these business models are blurring, with each of the three models examined using elements from others.

For the sake of clarification in future research and in practice there should be a method of better identifying the different elements of the business models. It is also suggested that F2P, B2P and P2P could be disregarded as descriptors, or at least placed on a continuum from purely free to purely paying.

8.2.1.3 RQ3: What are the consequences of a switch of business model to free-to-play for Overwatch?

- A framework was developed to establish whether a switch to F2P would be suitable.
- Quantitative and qualitative approaches both suggested a switch would be successful.
- Suggested benefits could be an increase in player numbers and a growth in its esport (OWL).

The third research objective considered Overwatch, using what has been explored previously with the literature review chapters, then the determination of event size and the interaction between business model and event size to explore Overwatch. This research question represents a novel examination of a single esport, with a case-study like answer and an evaluation of potential outcomes. Overall, it is concluded that a switch from its current business model (B2P) to a F2P model would be a positive move, with minimal negative effects but positive impacts on the video game more widely and on the associated esport.

Overwatch has been considered in some completed academic research but previous attempts to explore business models have not been made for Overwatch, and the impact on its associated esport has not been explored. Chapter 8 dealing with Overwatch used three relevant pieces of research considering business models from different perspectives to consider if Overwatch could benefit from a switch of business models from B2P to F2P. These three pieces of research provide a mix of quantitative and qualitative approaches. Namely, Luton (2013) is more descriptive with biographical elements of the author's experience, and Massarczyk et al. (2019) and Seidl et al. (2018) are more analytical. Among the conclusions is the idea that Overwatch would benefit from a switch to F2P, based on the points made by the three sources used. An adjustment of the business model of Overwatch 1 being made F2P while Overwatch 2 could be B2P was suggested, with the idea being that this could increase player numbers and improve the associated esport (OWL). This point has been rendered moot by the announcement that Overwatch 1 was being discontinued with the full launch of Overwatch 2, while Overwatch 2 is being made F2P. It could be suggested that the proposal to switch to F2P and its reasoning were justified by this switch to F2P. The impact on Overwatch esports remains to be seen.

8.3 Contributions

8.3.1 The field of study, theory and methods

One of contributions this thesis makes is the attempt to review a variety of definitions of esports before determining which is the most accurate. A range of options are explored

from existing literature on esports, before the definition of Cranmer et al. (2021) is decided to be the definition embraced by this thesis. Cranmer et al. (2021) aim to redefine esports, suggesting that the research area is disparate and segmented, and a more holistic definition is required. To do this, an overview is outlined of 22 different definitions across a wide variety of research areas, topics and methods, before Cranmer et al. (2021:117)'s working definition is stated: "electronic sports (esports) involves competitive, organised or technologically enabled activities encompassing varying degrees of physicality, virtuality and technological immersion". This definition selected is not too specific, broad enough to describe all types of esports (see previous discussion of Chaloner (2020)), and allows esports to be analysed more effectively. A clear definition can also generate future discussion, by providing future insights. For example, based on Cranmer et al. (2021)'s definition, future research could examine the degree of competitiveness, organisation, or technology within esports. Physicality, virtuality or immersion could also be considered. Hopefully through this thesis relaying and amplifying this definition it can be adopted more extensively, which helps with unifying the research area and standardising research on esports, providing a platform for future research.

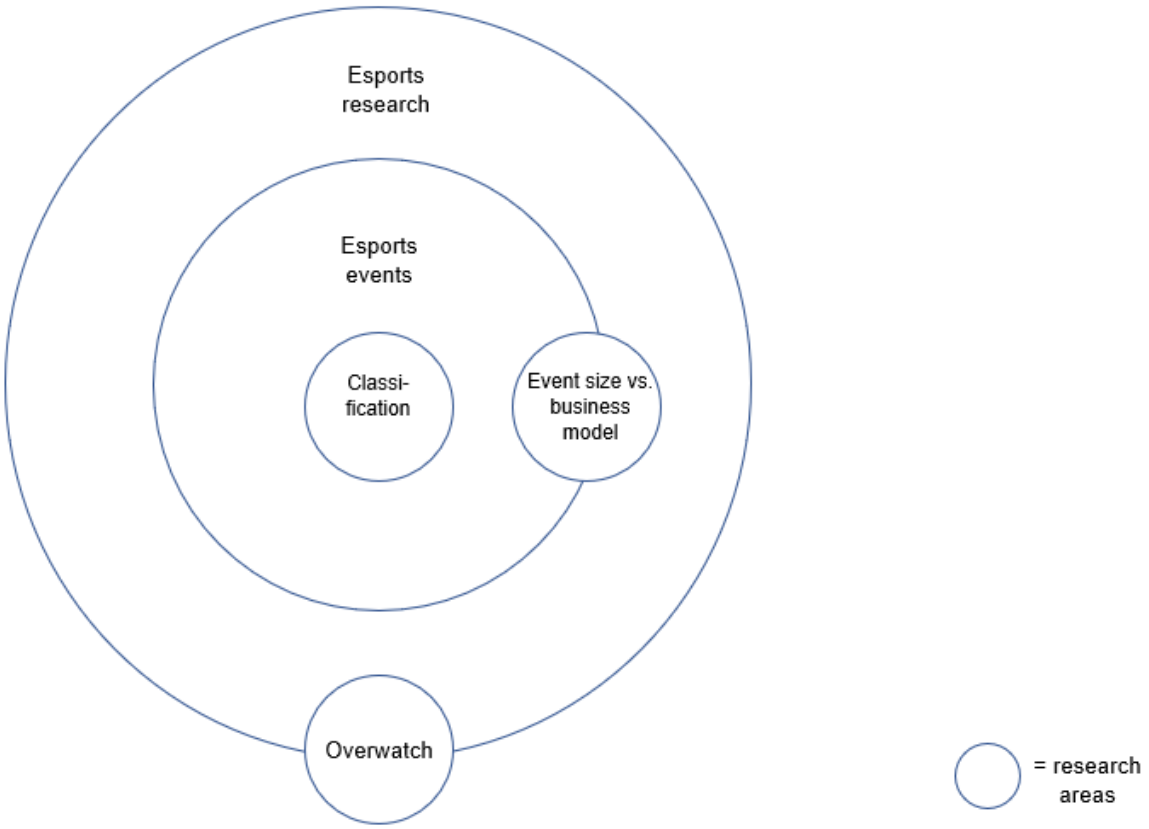
One of the other ideas introduced to esports research is the idea of using indexing. The index in this case was generated based on characteristics identified as important when considering size of events. The possibility of generating one figure to convey the size of an event is something that is useful for the analysis of esports events, which will likely grow in size and importance, but also for academic consideration of these events at a

time where the field is just establishing itself. It could be argued that the index developed, given it has a higher degree of objectivity than the initial classification developed, is of higher value to the field and contributes more theoretically. It could also be suggested that despite the original method of Müller (2015) being followed in chapter 5, the index has more potential for the future, particularly as more data across a longer time period is available.

The question could be asked on where the findings of this research are situated. The overarching research area is esports, and each of the analysis chapters falls within this. The analysis chapters considering classification and indexing sit distinctly in the area of esports events and contribute insight to this subsection of esports research. Event size vs. business model provides insight on esports events, but also has a wider perspective with the inclusion of video game business models, which does not specifically consider esports events. Regarding chapter 8 on Overwatch, this is slightly removed from research considering esports events. This is because Overwatch does have its own league, but in the relevant analysis chapter this is not considered as one of the main aspects of the research. For example, the switch of business model and the impact on Overwatch are considered in depth, while the impact on its esport is a secondary aim. Where the different findings addressed can be situated against each other is visualised in figure 8.2.

Figure 8.2

Where the thesis research findings are situated against each other



8.3.2 Contributions beyond the definition of esports events

The research conducted here has also applications and contributions outside that of esports. For example, the use of indexing could be viewed as something with potential for use in other areas. Indexes are often used in finance, but with the application to esports events here it can be seen as novel, and could be used for other areas. Indexes are useful for measuring complex phenomena and monitoring progress. Indexes can also be used for evaluating policies and supporting decision making; the successfulness

of the application to a novel situation here could be used as justification for using a similar methodology separately from esports.

Additionally, the application of the classification and index created, as well as the regression analysis conducted in chapter 6, has the potential to provide valuable insights for future research in the fields of sports economics and sports management. The comprehensive review of literature in chapter 2 delves into the question of whether esports should be classified as a sport, with a substantial amount of research supporting its classification as such. This lends support to the notion that a sound framework developed for esports can also be utilized in the study of traditional sports.

8.4 General discussions on esports and esports events

8.4.1 Paradoxes and issues with esports definitions

Considerable time and effort are dedicated to exploring the definition of esports, whether esports is indeed a sport, what esports should be defined as, what characteristics esports has. Some authors concentrate on the lack of physical elements of esports, the computer related aspects, links to institutions, and spectatorship aspects (Reitman et al., 2019). It is useful to start with a definition of sport and consider if esports could fit in this definition. Steinberg (2018) suggests two definitions, by the Oxford dictionary and Dictionary.com: "an activity involving physical exertion and skill in which an individual or a team competes against another or others for entertainment" is the definition provided by Oxford dictionary, and "an athletic activity requiring skill or

physical prowess" is suggested by Dictionary.com, with examples given as "racing, baseball, tennis, golf, bowling, wrestling, hunting and fishing". Based on the Oxford dictionary definition, esports is perhaps not a sport. The debate around esports including physical exertion takes place often, positions taken include that there is physical exertion within a game word, or via the movement while using a keyboard and mouse. The question around competing for entertainment is more debatable; if this is considered as competition taking place for spectators, then esports is more incompatible. As discussed in chapter 2, competitive activity within esports takes place often without spectators, often teams will compete in ‘scrims’ or competitive practice, without spectators. The Dictionary.com definition is more compatible with esports, as it can be argued convincingly that high-level esports requires skill to compete. Some even claim that a higher level of skill is required for esports than traditional sport, based on esports competitors completing far more games than traditional sports athletes (Bindloss, 2018). The Cambridge dictionary (2019) uses a slightly different definition, but one that again is compatible with esports: “a game, competition, or activity needing physical effort and skill that is played or done according to rules, for enjoyment and/or as a job”. A game, competition or activity can certainly be aligned with definitions of esports, as can the requirement of a sport being undertaken for enjoyment and/or as a job. However, physical skill is once again defined as a component of sport.

This contested nature of the definition of esports and of its position as maybe being a sport due to physical requirements or otherwise fails to recognise the esports environment and diminishing it as its own entity. It could be questioned whether a

physical requirement being enforced on esports even matters if esports is being considered as its own research area. There are some recognised benefits of esports being accepted as a sport, for example, through additional funding opportunities opened to other traditional sports, or through the possibility of competitors gaining visas for travel or work through esports being recognised as sport. The Director of Sport England, for example, has stated that it is possible for esports to obtain government funding, depending on how the competitive structure evolves and how esports can be linked to physical activity (British Esports, 2019). There would also be the possibility of increased exposure and funding if esports were made part of multi-sport events like the Commonwealth Games or the Olympics.

There are additional questions to be raised about the definition of esports, intimated previously, concerning the professional and paid elements of esports. The question can be asked over whether esports is the professional element of video gaming or not. If esports is the professional, or paid, element of competitive video gaming then questions can be asked around how organised events with no prize money fit in, or if events with small prize pools are also esports. This discussion around the smaller esports events aligns with a trend in esports, with numerous events with smaller prize pools constituting the pool of events. In the dataset considered previously in chapter 7, out of 7342 events, more than half (3989) have $10,000 or less, with 182 events having $0 in prize money. Based on these discussions, this thesis proposes that the definition should be clarified, with ‘esports’ describing competitive video gaming, and a professional esports athlete derives the majority of their revenue or income from competing in esports or

esports related activities, such as esports events, sponsorship, or wages from being on a team.

Further confusion could arise from the lack of clarity around the definition of an esports event. Esports is often discussed in depth and while mentioning these events, without explaining what they actually are. To take one of the most widely cited sources of data on esports, esportsearnings.com, data goes back to 1998, including events which distributed prize money as little as $50. There is no reason why this should not be classified as an event, but the question could be raised over what should. The wagers outlined in chapters 6 and 7, could be cited as esports events, for example. Based on established literature, this should not be defined as an event, but it is not clear what should. Based on the literature reviewed, a suggested definition is as follows: organised, structured and often time limited competitions between teams or individuals, usually in the structure of a league or a tournament. Events can be different sizes across time, or across repetition (editions) of an event. As discussed extensively in chapters 5 and 6, size is determined by online and in-person attendance, prize money and the discussed sublimes.

8.4.2 The current and future regulation of esports

One of the established characteristics of esports is a lack of formal and recognised structures (Peng et al., 2020). A lack of a central governing body can have some serious implications on cheating, match-fixing and even doping. Cheating can occur via in-game third-party software which can help you see through walls or aim automatically

for a player using the cheat. Doping is something not mentioned often in an esports context, but substances are used to enhance concentration intended to treat attention deficit hyperactivity disorder (ADHD). Match-fixing has occurred in esports at a high level, with the second highest rated player globally in StarCraft II taking money to lose games intentionally as he had a gambling problem, accepting $62,000 to lose two games, which was more than he was paid for winning some of the largest competitions in the sport (Abios, 2021). This shows how match-fixing, given the popularity of esports betting, could be a serious problem. There are some established organisations aimed at countering cheating that partner with large esports organisations like ESL and Dreamhack, such as Esports Integrity Commission (ESIC), World Esports Association (WESA), the International Esports Federation (IeSF) and the Global Esports Federation (GEF). Regional organisations like KeSPA and the European Esports Federation (EEF) also work towards this goal. However, as explained by Abios (2021), ESIC gets hundreds of match-fixing reports each day but cannot process them due to the sheer amount and lack of funding. This is where a fragmented industry can create difficulties.

Leroux-Parra (2020b) goes as far as describing esports as the “wild west” of sports law, where despite hundreds of billions of dollars changing hands the rules are still being evolved. The author argues that, because of a stigma against video games and a feeling that they would “rot your brain”, many people did not play much attention to the industry and as a result the associated laws and regulatory oversight has lagged behind, particularly concerning player contracts and multinational organisation and access. The early stages of OWL are a good example of this, where players were sent

contract offers by organisations looking to capitalise on selling them to the newly formed league teams, often by including short time windows for acceptance and 40 page long documents. These contracts include the possibility of termination at any point, the possibility of being traded to another team without notice, and the ability to reduce their pay without notice if a player is benched. Smith (2022) argues that these contracts can exist due to an absence of players unions and organisations to deter questionable practice. There have been a number of high-profile cases where organisations take large percentages of player income also, such as Fortnite player Turner “Tfue” Tenney who was in a contract dispute with his organisation FaZe, with Tenney claiming his contract allowed FaZe to claim 80% of his earnings (Settimi, 2020). As a result of these issues, some companies have begun to self-regulate, establishing ‘guardrails’, formalising elements of their management that are not legally required, in order to guarantee player safety and make their organisation stand out (Smith, 2020). Leroux-Parra (2020b) outlines a similar situation where hands-off developers result in tournament organisers assuming the role of enforcing contracts, meaning there are multiple examples of prize money not being paid. In the words of Leroux-Parra (2020b): “Without regulatory bodies to oversee the myriad of privately organized esports tournaments, this branch of esports will likely continue to face serious problems”. Hands-on developers, on the other hand, come with their own set of issues. A company holding property rights over their game, developing it, organising events and acting as its governing body could hold too much power and have no one to prevent them from

abusing it. Some companies have developed internal, independent bodies to try and mitigate this.

It appears as though the increasing significance and influence of bodies like UK Esports, KeSpa and ACE would represent a benefit for esports, but even then there are issues with these existing bodies. The global nature of esports could cause issues if national bodies enforce rules, Leroux-Parra (2020b) cites an example of if KeSpa had a minimum age of 18 and UK Esports a minimum of 21, would an 18 year old Korean be able to compete in the UK? Further, Leroux-Parra (2020b) relays the history of governing bodies that have not been successful, with UKespa filing for bankruptcy a year after it was founded, and ACE drawing controversy through poor working conditions. There are also multiple organisations at an international level that are all competing for supremacy (World Esports Association, Professional Esports Association, and the International Esports Federation) (Leroux-Parra, 2020b). All of this confusion is unfolding at a time when player rights are unclear. Publishers, teams and leagues are all benefiting while the majority of players are not earning as much as might be expected.

Some of the more well-known players supplement their esports income with streaming or sponsorships. It is a different situation for other players such as those competing in Dota 2, where outside of large flagship events they are required to organise their own schedules, with issues such as no training time being given, events being organised at short notice and overlapping fixtures (Savov, 2015). The organisations in charge of the events work for profit, so act in profit-seeking ways.

Overall, esports and video gaming are clearly significant generators of taxable revenue, and job creators and a large industry, now larger than music and movies combined (Parsons, 2019), as it is deserving of more detailed government attention. Based on the examples given, it does not seem as though the current regulatory practice is fit for purpose, and a more stringent regulatory authority is required.

8.4.3 Economic insights from the history of professional sports applied to esports

To understand the current situation of esports players, it can be useful to derive economic insights from the history of professional sports. This approach in terms of applying the peculiar economics of professional sports identified from seminal research to esports has already proved relevant, see e.g., Scelles et al. (2021). For example, a parallel can be drawn with the early periods of baseball in the US. It may seem that the two industries are not that similar, but the work of Rottenberg (1956:142) outlines a number of early characteristics which align with esports, for example competitive balance: "The nature of the industry is such that competitors must be of approximately equal "size" if any are to be successful; this seems to be a unique attribute of professional competitive sports". This is true of esports, where the most watched esports tend to have closely fought events and leagues. Baseball does, however, have some overarching institutions which control the sport, with seven such organisations determining the rules and procedures for the sport at the time Rottenberg (1956) wrote his paper. Regardless, the issues Rottenberg outlines are reflected in the unruly and mismanaged nature of esports. Rottenberg also refers to the reserve rule in baseball,

which results in a team retaining the rights to a player upon the expiry of their contract. He suggests that given this rule, "a player is confronted by a single buyer who may unilaterally specify the price to be paid for his services" (Rottenberg, 1956: 252), arguing that each team has its own labour market between the team and its players, with no movement among markets (to other teams) either of buyers or sellers being permitted.

The parallel with esports can be seen in the example given previously of Tfue, who had no choice but to sell or provide his labour to the buyer FaZe, despite the negative contract terms reported. This situation can be applied to another example outlined by Rottenberg (1956), who likens the recruitment of baseball players to oil wells, where there is heavy investment in discovering knowledge or determining how valuable these wells (or players) are. When oil is struck or a good player is found, the returns are high, but these returns have to compensate for the prior losses on the 'exploration'. This could explain the behaviour of esports teams. To use the same example of FaZe, they have a current roster of 93 different players and content creators and 11 current teams across a wide variety of esports (FaZeClan.com, n.d.). Based on this, FaZe will make considerable investments in their players, and from a strictly esports perspectives will only be successful in a percentage of these. Finally, Rottenberg (1956) makes a number of suggestions for baseball that could be applied to esports. Limiting the number of players held under contract at any point is one suggestion, with Rottenberg suggesting 15 players in total, with 26 players being the total permitted throughout a season nowadays (MLB.com, n.d.). Rottenberg suggests that the smaller the number of

players permitted to be contracted, the more equally talent will be distributed among teams, but with the caveat that limiting the number of player contracts is a restriction on market freedom and access, meaning a number of players who would have been contracted without limitation on the number of contracts may end without contract. Rottenberg concludes by stating that in terms of welfare, the free market is superior as each worker (player) gains their full value and there is no exploitation. This may be seen as contradicting and confusing the previous message encouraging the limitation of the number of contracts for the sake of a better competitive balance. However, Rottenberg (1956)'s key contribution is the invariance proposition, suggesting that the reserve rule has no impact on competitive balance but, instead, leads to the exploitation of players by clubs. Esports could learn from this when reflecting about the relevance of providing rigid systems for movement.

Scully (1974) builds on the work of Rottenberg, exploring the characteristics and framework of baseball, and how salaries are determined. One major difference from esports is raised here, namely that baseball tends to publicise salary, where esports does not. There is a common area with baseball however, with esports and baseball both having a range of statistics and measures to reflect performance, often this is built into a game. Scully uses data on marginal revenue product (player performance) and salary to determine the degree of monopsonist exploitation, or the degree to which teams are exploiting their power. The conclusion is drawn that players are exploited to a large degree in baseball, with star players gaining more through a higher salary. This is theorised to be caused by or worsened by the lack of antitrust laws seen in other

industries. Scully (1974) suggests a number of solutions for managing negotiations between players and teams, such as using more advanced free agency systems, or encouraging negotiation between a player's current team and a team the player who wishes to move to. Scully also suggests a system where no rights are held at the end of a contract, or negotiation of contracts between players and teams between each season. Esports seems to have a mix of these two models, where players can be dropped between seasons, and are free to negotiate contract changes. In some esports there is some free agency, but this is not formalised, and there are some high-profile examples of where teams have had disputes over player transfers. For example, an Indian PUBG mobile player wanted to move teams, with his old team refusing and his new team announcing his arrival, causing a contract dispute which is likely to have implications throughout Indian esports (Das, 2022). Scully concludes by making the point that with adequate negotiation, player development could be improved through modification of the established contract system and teams would not be penalised.

Another aspect worth considering from traditional sports to compare to esports is the work of Sloane (1969), who considers the labour market for professional football in England. Compared to esports, football had formalised frameworks in place early in its evolution, with the first professionals recognised in 1885, and the formation of the Football League in 1888. Sloane (1969) outlines how, based on The Chester Report (1968), football developed a system where contracts have an agreed-upon end date which can be extended if both parties agree, after which a player can move to another club. This is similar to esports contracts but football has a more established model of

exchanging a transfer fee to secure the services of a desired player. This does happen in esports, with the reported first ever transfer offers of over £50,000 coincidentally being for a FIFA player (Herbert, 2021). Sloane concludes by debating the possibility of removing the transfer payments, determining that it could have some positive effects such as transfer fees going directly to the player, but this would likely result in earnings spiralling. Sloane goes as far as talking about the exploitation of (some) clubs by (some) players. Ultimately, it would not be surprising to see more transfer offers and money being exchanged within esports given the amount of money already existing within this sector. There are examples of esports leagues which are closely modelled on sports leagues, such as OWL and CoD League, both discussed previously, so it would not be surprising for these leagues to embrace transfers.

8.4.4 Narrowing or widening regional differences

One of the characteristics of esports is that it has variation between regions. A good example of a specific esport with regional differences is CrossFire. CrossFire is an FPS game similar to CS: GO, and one of the most popular games in the world despite it being popular only in a small amount of countries, namely in Asia. Custer (2014) argues that this is for a number of reasons, including that it is consistent and stable, and that Asian video gamers are not as concerned about playing a new game. CrossFire also has a microtransaction system which works effectively with those playing in Asia, e.g., in China it offers the ability to pay in RMB through AliPay, a popular payment method (Custer, 2014). This led it to be one of the highest revenue generating F2P games

worldwide, generating just under $1bn with the highest revenue in 2014, and number 5 with $1.3bn in 2018 (Custer, 2014; Smythe, 2019). It is also argued by Custer (2014) that CrossFire is easy to run, more conducive to gaming cafe environments, and it is an easy game to pick up (i.e., with a low skill floor).

There are also regional differences in esports organisations. Leroux-Parra (2020b) explains this by stating that the top organisations are North American and European because these organisations have diversified where others have not. Korean esports organisations are given as an example of non-diversification as they tend to focus on just one esport. Some firms do try to account for both of these styles, by having an umbrella management company partnered with smaller localised organisations managing operations within each country. An example is given by Leroux-Parra (2020c) in Immortals Gaming Club, which owns a host of different esports teams across Brazil and North America. OWL is cited as an example which could benefit from this type of approach, as it requires a localised approach for teams like Shanghai Dragons, while competing in a North American league.

These regional differences, much like the lack of formalised institutions outlined previously, are characteristics of esports that have to be taken into account when considering esports events. This is something that could have been acknowledged more explicitly in this thesis, but it is unlikely to have much of an impact on the eventual findings.

8.4.5 Political / Soft power considerations in esports

There is another political element to esports events which is yet to be considered extensively. Soft power is something considered extensively in the context of sports and sporting events and sporting mega events, but not extensively considered around research into esports despite there being some similar characteristics. The definition of soft power was set by Joseph Nye (2012:166), who suggests that soft power is "when one country gets other countries to want what it wants might be called co-optive or soft power in contrast with the hard or command power of ordering others to do what it wants". Grix and Brannagan (2016) outline how Qatar has seen mixed experiences with employing soft power tactics, with analysis showing how small states such as Qatar attempt to acquire soft power through cultural, political and economic structures and resources. Furthermore, Qatar has attempted to generate soft power in many ways, including through the staging of global events like the 2022 World Cup. Grix and Brannagan also relay how Qatar's attempts to obtain soft power had mixed outcomes due its poor human rights record. Brannagan and Rookwood (2016) build on this, arguing that Qatar provides a compelling case study to investigate the socio-political impact of sporting mega events for nation-states, suggesting that future research should continue. Brannagan and Rookwood (2016) also argue that often hosts will be judged on their capacity to organise and oversee the sporting elements of an event "as opposed to the achievement of wider social/cultural/political outcomes", citing the example of the availability of tickets.

There has been limited academic attention given to soft power and esports, with the most prominent being Wong and Meng-Lewis (2022) considering China's use of "Esports Diplomacy", explaining that soft power is important for China and its pursuit of global power status. Esports is seen as a resource to engage, inform and create image of China overseas. The outcomes generated through Esports Diplomacy have provided resources for China's pursuit of soft power. The research undertaken builds upon existing research on China's political and diplomatic pursuits, but also encourages future research into how esports could be utilised to achieve diplomatic outcomes, rather than as something which brings economic or financial gains through entertainment.

There are also some non-academic considerations of how esports is being utilised by China to create soft power. He (2021) explains how the most lucrative opportunities in esports are found in China, with 21% of the top players residing there, and an average salary of $1.4m for these high-tier players. He suggests that the platform esports enjoys within China could create an opportunity to export entertainment at a scale that could rival Hollywood films. In 2016, China's Ministry of Education formally recognised esports as a profession, and policy has been targeted towards encouraging growth, for example in Shanghai, Hangzhou and Hainan significant sums have been invested into esports related infrastructure. Domestic firms have also been encouraged to invest in esports, with Alibaba and Tencent supporting talent, and funding qualifications at universities. Defer (2022) considers the same concept from a different perspective, examining how the same soft power tools are utilised by Saudi Arabia, United Arab Emirates, Qatar or

Bahrain, who have invested in esports through the hosting of international tournaments, national tournaments, and investment in esports companies. This is echoed by Zidan (2022) who explores Saudi Arabia specifically, outlining how ESL and FACEIT, two esports organisers were purchased by Saudi-backed investment firms, as well as investment by Saudi investment in the Japanese game firm SNK in 2020, and $3bn investment in EA, Activision-Blizzard and Take Two. Zidan argues that by focusing on esports, Saudi Arabia has added a new layer to its soft power strategy, enhancing its sportswashing strategy. This sportswashing / soft power combination has had some issues, however. Riot Games LoL European Championship cancelled a Saudi-backed sponsorship a day after announcing it due to fans threatening to boycott the league over the Saudis anti-LGBTQ+ laws. Ubisoft moved its Rainbow Six Siege tournament from the UAE after over 13,000 fans signed a petition against the move. More recently, Saudi Arabia partnered with a charity, Gamers without Borders, to host a tournament with prize money totalling over $15m (Sacco, 2022; Rondina, 2022), with competitors paid to post to their social media and produce video content, which, it could be argued, is an example of sportswashing. Given the partnership with a charity, some of the competitors due to attend were not aware of the link to the Saudi state, with some unaware of the state's humanitarian problems. Given the existing, accepted examples of sportswashing outside of esports, it seems likely that esports is being purposely utilised in the same way. In the light of the forecasted growth of esports, this could become more widespread in the future.

8.5 Recommendations for practice

There are a number of recommendations for practice from this research for esports that future academic studies and those in the wider industry can benefit from. Discussed previously, esports research could embrace a wider range of methodological tools to facilitate a higher degree of analysis, with the example discussed previously being by increasing the use of indexes or composite indicators. On a more basic level, a more structured collection of data on esports would be beneficial, both for researchers and for esports practitioners. The issues outlined in chapter 5 of there being difficulty in obtaining a uniform data set is an example of where one centralised data collection body would be a positive step. Community-run websites like esportsearnings.com are valuable but are not always as accurate or wide reaching.

This leads on to and links with another suggestion for practice, namely that there is a need for a single, unified body which could collect, standardise, and provide reliable data on esports. This type of governing body, providing it has real power to enact change and manage the industry, could have a positive impact on the sector at a time when it is needed, with a pertinent example being the ‘wild west’ of player-team contracts outlined in chapter 9. This type of body could align with regional and country specific bodies to promote uniformity and participation. There are examples of something close to this like the Global Esports Federation (GEF), but this institution does not seem to hold a great deal of authority. There are a numerous member nations, but there is little impact on regulations globally due to the actions of GEF. This type of body is always likely to run into problems due to the issues which occurred with the

original esports governing body in the UK, UKESA, which went bankrupt a year after its founding (PCR, 2015). Such a governing body always has the potential to run into difficulty, as it is not always guaranteed for countries to align with its rules. Also, it requires large investment without any assured returns, and someone has to pay for it. Similarities could be drawn with the early years of mixed martial arts (MMA), where there was no single unified institution to control the amateur aspects of the sport. The International Mixed Martial Arts Federation (IMMAF) helped to provide legitimacy, uniform the rules, and promote safety. Huff (2013) draws a comparison between MMA and boxing, where the foundation of a governing body had similar effects. Founding rules were selected which promoted the sport by drawing attention to the finesse and skill of the boxers. A global governing body holding real influence could fulfil a similar role, advising new esports and developers to encourage esports. Esports could even adopt a similar structure to MMA and IMMAF, where publishers or organisers act as the governing body for individual esports or events, and a global institution which helps at a slightly lower level.

Finally, as suggested in the previous chapters, practitioners in esports could benefit from a single unified definition of esports, as suggested by Cranmer et al. (2021). At the moment, with many different definitions, esports can hold different meanings to different people, and a single definition would remove this ambiguity. A governing body would facilitate this, with the power to clarify definitions and promote a single meaning across member institutions. An example of this is the definition provided by British Esports (2016), who give a clear and in-depth description of what they deem the term esports to

mean. Their definition begins by explaining that “Esports (or electronic sports) is a term used to describe competitive video gaming”, before going through a number of examples including FIFA, Overwatch, Street Fighter and Overwatch. Their definition also outlines that there are professional coaches and teams, a high degree of skill, professionalism, and significant sponsorship and prize pools.

8.6 Future research

Based on the analysis and discussion undertaken, there are a number of suggestions and implications for future research into esports and esports events. As mentioned previously, it could be enlightening to focus on single esports, with a more case study approach as was undertaken in chapter 8. This has been insightful considering Overwatch and given many esports share common characteristics the results found could be generalised to a certain degree. Similarly, more research considering esports as its own research area could offer unique insight, rather than using esports to derive research findings in adjacent fields. Another potential improvement in esports research could be the founding of a European-focused esports research body, as argued by Scholz and Nothelfer (2022). These authors explain that many universities do not conduct research into esports, and consequently focus is lacking on creating rigorous esports research. A research centre could be developed, linked with the EU, as Scholz and Nothelfer (2022) argue, creating a world-leading research centre focused on multidisciplinary and cross-sectional research. A link to gaming research more broadly could also be encouraged. Scholz and Nothelfer (2022) also argue that research into

esports needs to be funded more extensively; research into gaming is often funded, but the esports aspect is often disregarded. The same could be said of considering esports events specifically, over esports more broadly.

More research could be conducted into the implications of choices around utilising and switching between different business models. One issue identified previously is the tendency for video games to have multiple aspects drawn from different, and sometimes contesting business models. For example, Fortnite is a F2P game, but has optional B2P one-off purchases and an optional, additional P2P battle pass and a higher tier cash-only subscription. One suggestion for potential future research could be to draw inspiration from chapter 8 and develop a system for identifying and classifying elements of business models. The outcome could be a figure which means a game is F2P, B2P, P2P or a mixture. The same process could be followed as in chapter 8, where a literature review is conducted to anchor any framework to existing research. A value could be assigned to evaluate the type of monetisation utilised. Examples of characteristics that could be incorporated include: requires initial purchase to access (accounting for traditional B2P aspects), requires purchase to compete in-game (accounting for more pay-to-win elements), and optional battle pass available (accounting for more P2P elements). Other basic examples which could be included are micro transactions, ongoing fees, optional cosmetics, and downloadable content. Evidence of the popularity of these could be accounted for also, with Fortnite and their battle pass very popular, and similarly Overwatch and its loot boxes. This could also

eliminate or at least nuance the labels F2P, B2P and P2P which have clearly become not fully fit for purpose given the blurred lines between the three.

8.7 Concluding remarks

This chapter aimed to synthesise what had come prior and recap the major findings. This was achieved by first considering the research aims, then the research questions and related objectives, and how these had been answered before the corresponding findings drawn from the analysis chapters were summarised. The contributions of the thesis were then explored, to try and explain why this research is important and who it might benefit. Each chapter's limitations were then explored in depth, considering methodological and theoretical issues with the research undertaken. Finally, directions that could be explored in the future using the thesis as a springboard are considered

The aim of this research was to contribute to a burgeoning research field which is in need of formal structures in order to properly facilitate research in the future. The research created throughout this thesis fits into the existing body of research through building on and adapting studies conducted on sporting events, using novel quantitative techniques to build a theoretical basis, and using a mixed-method approach to the analysis of esports and esports events. The research attempts to fill gaps in the literature around esports events, classification of these events, and the interaction between esports and video game business models. This is a unique approach and attempts to contribute to a research area which is in its infancy but rapidly growing.

Insights offered which are unique include the model developed around esports events, the determination that P2P events are less influential on event size versus F2P and B2P, and the idea that Overwatch would benefit from a switch to F2P. This research is important because esports is a significantly sized industry with the potential for future expansion. Academic input now, such as the findings in this thesis, can hopefully guide future practitioners, academics, and policymakers.

9. References

Abanazir, C. (2019). Institutionalisation in E-Sports. *Sport, Ethics and Philosophy*, 13(2), pp.117–131. doi:10.1080/17511321.2018.1453538.

Abios (2021). *The Battle for Integrity within Esports*. [online] Abios Newsroom. Available at: https://abiosgaming.com/press/the-battle-for-integrity-within-esports/ [Accessed 21 Jul. 2022].

Adams, K., Devia-Allen, G. and Moore, M.A. (2019). *Understanding esports. An introduction to the global phenomenon.* Lexington: Lexington Books.

Ahn, J., Collis, W. and Jenny, S. (2020). The one billion dollar myth: Methods for sizing the massively undervalued esports revenue landscape. *International Journal of Esports,* 1(1).

Ahuja, S. (2018). *Should Poker Be Considered a Sport?* [online] www.sportskeeda.com. Available at: https://www.sportskeeda.com/poker/should-poker-be-considered-a-sport [Accessed 19 Jul. 2022].

Alha, K. (2020). *The Rise of Free-to-Play: How the revenue model changed games and playing*. [online] *researchportal.tuni.fi*. Tampere University Dissertations - Tampereen yliopiston väitöskirjat. Available at: https://researchportal.tuni.fi/en/publications/the-rise-of-free-to-play-how-the-revenue-model-changed-games-and- [Accessed 19 Jul. 2022].

Alha, K., Koskinen, E., Paavilainen, J., Hamari, J. and Kinnunen, J. (2014). Free-to-Play Games: Professionals' Perspectives. In: *Free-to-Play Games: Professionals' Perspectives: Nordic DiGRA 2014*. DiGRA 2014.

Amenabar, T. (2022). The Overwatch League returns with live events, but missing key sponsors. *Washington Post*. [online] 17 Mar. Available at: https://www.washingtonpost.com/video-games/esports/2022/03/17/owl-overwatch-2-league/.

APA (n.d.). *APA Dictionary of Psychology*. [online] dictionary.apa.org. Available at: https://dictionary.apa.org/unidimensionality.

Aramo-Immonen, H. (2011). *Information systems, E-learning, and Knowledge Management Research*. Cham, Suisse: Springer.

Ark Invest (2021). *Big Ideas 2021*. [online] ARK Investment Management LLC. Available at: https://research.ark-invest.com/hubfs/1_Download_Files_ARK-Invest/White_Papers/ARK%E2%80%93Invest_BigIdeas_2021.pdf.

Arnaud, J.-C. (2010). eSport - A New Word by Jean-Christophe Arnaud. In: J. Christophers and T. Scholz, eds., *esports Yearbook 2009*. Norderstedt: Books on Demand GmbH, pp.11–13.

Aromataris, E. and Riitano, D. (2014). Systematic Reviews. *American Journal of Nursing*, 114(5), pp.49–56. doi:10.1097/01.naj.0000446779.99522.f6.

Asavei, V., Gradinaru, A., Moldoveanu, A., Pistirica, S., Poncea, O. and Butean, A. (2016). Massively multiplayer online virtual spaces – classification, technologies and trends. *U.P.B. Sci. Bull., Series C*, 76(4).

Ashley, J. (2021). *FaZe Clan goes public - $1 Billion valuation explained*. [online] Esports.net. Available at: https://www.esports.net/news/faze-clan-goes-public-1-billion-valuation-explained/#:~:text=FaZe [Accessed 13 Mar. 2022].

Ashton, G. (2019). *Four Ways in Which Politics are Influencing Esports*. [online] The Esports Observer｜home of essential esports business news and insights. Available at: https://esportsobserver.com/four-ways-politics-esports/.

Austin, Z. and Sutton, J. (2014). Qualitative Research: Getting Started. *The Canadian Journal of Hospital Pharmacy*, [online] 67(6), pp.436–440. doi:10.4212/cjhp.v67i6.1406.

Ayles, J. (2019). *How Technology Can Help Esports Continue Its Astonishing Growth*. [online] Forbes. Available at: https://www.forbes.com/sites/jamesayles/2019/10/17/how-technology-can-help-esports-continue-its-astonishing-growth/#172f95d54219 [Accessed 30 Jul. 2022].

Aziz, H. (2014). *So how much does it cost to host an esports competition anyway?* [online] Destructoid. Available at: https://www.destructoid.com/so-how-much-does-it-cost-to-host-an-esports-competition-anyway/ [Accessed 30 Jul. 2022].

Babbie, E.R. (2013). *The practice of social research*. Belmont, Calif.: Wadsworth Cengage Learning.

Babbie, E.R. (2016). *The practice of social research*. Boston, Ma: Cengage Learning.

Bailey, D. (2019). *Loot boxes lead Overwatch to $1 billion of in-game revenue*. [online] PCGamesN. Available at: https://www.pcgamesn.com/overwatch/revenue.

Bailey, D. (2022). *Overwatch 2 gets record viewers after Twitch Drop beta keys*. [online] PCGamesN. Available at: https://www.pcgamesn.com/overwatch-2/twitch-drop-beta-keys [Accessed 20 May 2022].

Baker, T. (2018). *League of Legends: Chinese Viewership Drives Worlds to Highest Peak in Esports History*. [online] The Game Haus. Available at:

https://thegamehaus.com/columns/league-worlds-viewership-esports-2018/2018/11/12/ [Accessed 20 May 2022].

Bányai, F., Zsila, Á., Griffiths, M.D., Demetrovics, Z. and Király, O. (2020). Career as a Professional Gamer: Gaming Motives as Predictors of Career Plans to Become a Professional Esport Player. *Frontiers in Psychology*, 11. doi:10.3389/fpsyg.2020.01866.

Barclay, J. (2009). Predicting the Costs and Benefits of mega-sporting events: Misjudgement of Olympic proportions? Economic Affairs, 29(2), pp.62–66. doi:10.1111/j.1468-0270.2009.01896.x.

Bassam, T. (2021). *Premier League agrees to roll over UK£5bn domestic TV rights deal*. [online] SportsPro. Available at: https://www.sportspromedia.com/news/premier-league-uk-tv-rights-sky-bt-sport-amazon-2024-25-efl-funds [Accessed 30 Jul. 2022].

Bell, K. (2013). verstehen definition | Open Education Sociology Dictionary. *sociologydictionary.org*. [online] Available at: https://sociologydictionary.org/verstehen/.

Berg, B.L. and Lune, H. (2012). *Qualitative research methods for the social sciences*. Boston Etc.: Pearson, Cop.

Bernal, A. (2022). *Warzone pro Vapulear responds to Aydan's wager 'scam' accusations*. [online] Dexerto. Available at: https://www.dexerto.com/call-of-duty/warzone-pro-vapulear-responds-to-aydans-wager-scam-accusations-1809236/ [Accessed 20 May 2022].

Billaut, J.-C., Bouyssou, D. and Vincke, P. (2009). Should you believe in the Shanghai ranking? *Scientometrics*, 84(1), pp.237–263. doi:10.1007/s11192-009-0115-x.

Billings, A.C. and Hardin, M. (2022). Changing the Esport Debate: An Upstart Establishes Firm Footing in the Sports Arena. *Communication & Sport*, 10(2), pp.171–174. doi:10.1177/21674795221085053.

Bindloss, W. (2018). *Meet the expert who claims all esports require more skill than traditional sports*. [online] PC Gamer. Available at: https://www.pcgamer.com/meet-the-expert-who-claims-all-esports-require-more-skill-than-traditional-sports/.

Blaikie, N.W.H. (2010). *Designing social research: the logic of anticipation*. Cambridge ; Malden, Mass.: Polity Press.

Blake, A. (2005). Economic Impact of the London 2012 Olympics. *opus.lib.uts.edu.au*. [online] Available at: http://hdl.handle.net/10453/19780.

Blizzard (2021). *Overwatch Free Trial*. [online] Blizzard Support. Available at: https://eu.battle.net/support/en/article/55029 [Accessed 30 Jul. 2022].

Blom, J. (2018). Overwatch as a Shared Universe: Game Worlds in a Transmedial Franchise. *Proceedings of DiGRA 2018*.

Blom, J. (2022). The Player's Interpretative Agency and the Developer's Disruptive Powers: How Blizzard Enforces Authorial Intention in Overwatch. *Modes of Esports Engagement in Overwatch*, pp.49–66. doi:10.1007/978-3-030-82767-0_4.

Bolin, C. (2020). *The Future of Virtual Reality in Esports | Esportz Network*. [online] Esportz Network. Available at: https://www.esportznetwork.com/the-future-of-virtual-reality-in-esports/.

Boote, D.N. and Beile, P. (2005). Scholars Before Researchers: On the Centrality of the Dissertation Literature Review in Research Preparation. *Educational Researcher*, 34(6), pp.3–15. doi:10.3102/0013189x034006003.

Borisov, A. (2021). *Most Watched Esports Tournaments of 2021*. [online] Escharts.com. Available at: https://escharts.com/news/most-watched-tournaments-2021.

Bowen, T. (2021). *The 12 Most Expensive Games Ever Made & How Much It Cost To Make Them*. [online] Game Rant. Available at: https://gamerant.com/most-expensive-games-ever-made-total-cost/ [Accessed 19 Jul. 2022].

Brady, L. (2022). *Overwatch League to offer 1,500 Overwatch 2 beta codes per hour*. [online] The Loadout. Available at: https://www.theloadout.com/overwatch-2/beta-codes-overwatch-league [Accessed 19 Jul. 2022].

Brannagan, P.M. and Giulianotti, R. (2014). Qatar, Global Sport and the 2022 FIFA World Cup. *Leveraging Legacies from Sports Mega-Events*, [online] pp.154–165. doi:10.1057/9781137371188_14.

Brannagan, P.M. and Rookwood, J. (2016). Sports mega-events, soft power and soft disempowerment: international supporters' perspectives on Qatar's acquisition of the 2022 FIFA World Cup finals. *International Journal of Sport Policy and Politics*, 8(2), pp.173–188. doi:10.1080/19406940.2016.1150868.

Brent Ritchie, J.R. (1984). Assessing the Impact of Hallmark Events: Conceptual and Research Issues. *Journal of Travel Research*, 23(1), pp.2–11. doi:10.1177/004728758402300101.

British Esports (2016). *What are esports? An overview for non-fans*. [online] British Esports Association. Available at: https://britishesports.org/general-esports-info/what-are-esports-an-overview-for-non-fans/.

British Esports (2019). *Exclusive interview: Sport England on the possibility of esports teams acquiring funding and how esports and sport can work together - British Esports Federation*. [online] britishesports.org. Available at: https://britishesports.org/news/sport-england-phil-smith-esports-interview/ [Accessed 21 Jul. 2022].

Brown, A. (2020). *How Many People Are Playing World Of Warcraft*. [online] ScreenRant. Available at: https://screenrant.com/world-warcraft-players-amount-servers-popular-subscribers-total/.

Brown, F. (2022). *What happened to autobattlers?* [online] PC Gamer. Available at: https://www.pcgamer.com/uk/what-happened-to-autobattlers/ [Accessed 15 Jun. 2022].

Brown, N. (2015). *Dr Nicole Brown*. [online] Dr Nicole Brown. Available at: https://www.nicole-brown.co.uk/epistemology/.

Bryman, A. (2012). *Social Research Methods*. 4th ed. Oxford, Uk: Oxford University Press.

Bryman, A. and Bell, E. (2015). *Business Research Methods*. 4th ed. Oxford: Oxford University Press.

Burns, A. (2009). Mixed Methods. *Qualitative Research in Applied Linguistics*, [online] pp.135–161. doi:10.1057/9780230239517_7.

Butte College (2019). *Deductive, Inductive and Abductive Reasoning - TIP Sheet - Butte College*. [online] www.butte.edu. Available at: http://www.butte.edu/departments/cas/tipsheets/thinking/reasoning.html.

Byers, T., Slack, T. and Parent, M. (2012). Key Concepts in Sport Management. *SAGE Key Concepts Series*. doi:10.4135/9781473914599.

Cambridge Dictionary (2019). *SPORT | meaning in the Cambridge English Dictionary*. [online] Cambridge.org. Available at: https://dictionary.cambridge.org/dictionary/english/sport.

Cameron, M.P., Brown, J., Cochrane, W. and Robertson, N. (2022). A mixed-methods evaluation of the one-way door and CitySafe patrol policies in Whangarei, New Zealand. *PLOS ONE*, 17(6), p.e0270149. doi:10.1371/journal.pone.0270149.

Castello, J. (2020). *Don't worry about the Overwatch League, worry about its workers*. [online] Polygon. Available at: https://www.polygon.com/2020/1/28/21083588/overwatch-league-player-caster-talent-burnout-season-3 [Accessed 30 Jul. 2022].

Castelot, O. (2019). *Overwatch Has Generated $1B USD From In-Game Purchases Since Launch*. [online] estnn.com. Available at: https://estnn.com/overwatch-has-generated-1b-usd-from-in-game-purchases-since-launch/ [Accessed 30 Jul. 2022].

Chaloner, P. (2020). *This Is Esports (and How to Spell It) : An Insider's Guide to the World of Pro Gaming.* Bloomsbury Publishing Usa.

Chatzistamoulou, N., Kostas, K. and Theodor, A. (2021). Salary Cap, Organizational Gap, and Catch-up in the Performance of NBA Teams: A Two-Stage DEA Model Under Heterogeneity.

Journal of Sports Economics, 23(2), p.152700252110222. doi:https://doi.org/10.1177/15270025211022253.

Chikish, Y., Carreras-Simó, M. and Garci, J. (2019). esports: A New Era for the Sports Industry and a New Impulse for the Research in Sports (and) Economics? In: *Sports (and) Economics*.

Choi, C., Hums, M. and Bum, C.-H. (2018). Impact of the Family Environment on Juvenile Mental Health: eSports Online Game Addiction and Delinquency. *International Journal of Environmental Research and Public Health*, 15(12), p.2850. doi:10.3390/ijerph15122850.

Clarivate Analytics (n.d.). *Web of Science*. [online] www.webofscience.com. Available at: https://www.webofscience.com/wos/woscc/citation-report/bb18139b-e652-41f8-8c58-43651accf793-42697fe5 [Accessed 10 Jul. 2022].

Coldewey, D. (2019). *Free to play games rule the entertainment world with $88 billion in revenue*. [online] https://techcrunch.com/2019/01/18/free-to-play-games-rule-the-entertainment-world-with-88-billion-in-revenue/?guccounter=1&guce_referrer=aHR0cHM6Ly93d3cuZ29vZ2xlLmNvbS8&guce_referrer_sig=AQAAAGP1o54KnHnsni2yfu61DDsuWWfPxXhXFGQRh9iIp4wWzCXsfh66d6An9gIYiCPPqT3_q6ta66BcjqpJKdOSLrZW_qc81hb6Lw9MhOnIkGzAXXAMx3Q3IUf_rPQmZC_iBwtQ87ta4rf_c-_vwYfyGb2bcIpRNY6wc4oLakL4RAII. Available at: https://techcrunch.com/2019/01/18/free-to-play-games-rule-the-entertainment-world-with-88-billion-in-revenue/?guccounter=1&guce_referrer=aHR0cHM6Ly93d3cuZ29vZ2xlLmNvbS8&guce_referrer_sig=AQAAAGP1o54KnHnsni2yfu61DDsuWWfPxXhXFGQRh9iIp4wWzCXsfh66d6An9gIYiCPPqT3_q6ta66BcjqpJKdOSLrZW_qc81hb6Lw9MhOnIkGzAXXAMx3Q3IUf_rPQmZC_iBwtQ87ta4rf_c-_vwYfyGb2bcIpRNY6wc4oLakL4RAII.

Combs, V. (2021). *8 hours and 27 minutes. That's how long the average gamer plays each week*. [online] TechRepublic. Available at: https://www.techrepublic.com/article/8-hours-and-27-minutes-thats-how-long-the-average-gamer-plays-each-week/#:~:text=Binge%20gaming%20is%20up%2013 [Accessed 29 Jun. 2022].

Cooke, H. (2021). *The 5 best mobile esports*. [online] Dot Esports. Available at: https://dotesports.com/mobile/news/the-5-best-mobile-esports [Accessed 4 May 2022].

Cooper, H.M. (1998). *Synthesizing research : a guide for literature reviews*. Thousand Oaks, Calif.: Sage Publications.

Council of Europe (2001). *Recommendation no. R (92) 13 Rev of the Committee of Ministers to Member States on the Revised European Sports Charter*.

Cranmer, Eleanor.E., Dann. Han, Dai-In., van Gisbergen, Marnix. and Jungt, T. (2021). esports Matrix: Structuring the esports Research Agenda. *Computers in Human Behavior*, 117, p.106671. doi:10.1016/j.chb.2020.106671.

Crecente, B. (2008). Fighting to Play: The History of the Longest Lived Fighting Game Tournament in the World. *Kotaku*. [online] 10 Jun. Available at: https://kotaku.com/fighting-to-play-the-history-of-the-longest-lived-figh-5054856 [Accessed 7 Jul. 2022].

Creswell, J.W. (2014). *Research Design: Qualitative, Quantitative, and Mixed Methods Approaches*. 4th ed. Erscheinungsort Nicht Ermittelbar: Sage Publications Ltd.

Creswell, J.W. and Plano Clark, V.L. (2017). *Designing and Conducting Mixed Methods Research*. 3rd ed. Los Angeles: Sage.

Creswell, J.W. and Poth, C.N. (2018). *Qualitative inquiry & research design : choosing among five approaches*. Los Angeles: Sage.

Crowe, S., Cresswell, K., Robertson, A., Huby, G., Avery, A. and Sheikh, A. (2011). The Case Study Approach. BMC Medical Research Methodology, 11(1), pp.1–9. doi:https://doi.org/10.1186/1471-2288-11-100.

Cupchik, G. (2001). Constructivist Realism: an Ontology That Encompasses Positivist and Constructivist Approaches to the Social Sciences. *For Qualitative Sozialforschung / Forum: Qualitative Social Research,* 2(1).

Curtin, P. (2017). *Twitch's Most Watched Games of 2016*. [online] www.githyp.com. Available at: https://www.githyp.com/twitchs-most-watched-games-of-2016/ [Accessed 30 Jul. 2022].

Custer, C. (2014). *Tech in Asia - Connecting Asia's startup ecosystem*. [online] www.techinasia.com. Available at: https://www.techinasia.com/why-is-crossfire-so-popular-in-asia.

D'Anastasio, C. (2022). The Shaky Future of Activision's Overwatch League. *Bloomberg.com*. [online] 9 Jun. Available at: https://www.bloomberg.com/news/articles/2022-06-09/activision-blizzard-s-overwatch-league-fails-to-fulfill-bobby-kotick-s-vision.

Dane, P. (2022). *Overwatch 2 heroes are becoming harder to play and casual players will suffer most*. [online] TechRadar. Available at: https://www.techradar.com/uk/opinion/overwatch-2-heroes-are-becoming-harder-to-play-and-casual-players-will-suffer-most [Accessed 19 Jul. 2022].

Daniels, T. (2021a). *Esports viewership breakdown with Esports Charts: October 2021*. [online] Esports Insider. Available at: https://esportsinsider.com/2021/11/esports-viewership-breakdown-with-esports-charts-october-2021/.

Daniels, T. (2021b). *LoL, Dota 2, and Street Fighter V among 2022 Asian Games medal events*. [online] Esports Insider. Available at: https://esportsinsider.com/2021/09/lol-dota-2-and-street-fighter-v-among-2022-asian-games-medal-events/.

Daniels, T. (2021c). Top 10 highest viewed esports events of 2021. [online] Esports Insider. Available at: https://esportsinsider.com/2021/12/highest-viewed-esports-events-2021/.

Daniels, T. (2022). *Mobile miracles: The rise and reign of mobile esports in Southeast Asia*. [online] Esports Insider. Available at: https://esportsinsider.com/2022/07/mobile-esports-sea-growth/#:~:text=Simply%20put%2C%20mobile%20esports%20is [Accessed 7 Jul. 2022].

Das, A. (2021). *Is Overwatch Dying in 2021? What is its Player Count?* [online] AFK Gaming. Available at: https://afkgaming.com/esports/news/7039-is-overwatch-dying-in-2021-what-is-its-player-count [Accessed 30 Jul. 2022].

Das, A. (2022). *How Will SHADOW's Contract Situation with TSM and GodLike Play Out? We Asked a Lawyer*. [online] AFK Gaming. Available at: https://afkgaming.com/mobileesports/news/how-will-shadows-contract-situation-with-tsm-and-godlike-play-out-we-asked-a-lawyer-2 [Accessed 23 Jul. 2022].

Dautovic, G. (2020). *Top Video Game Industry Statistics (2020)*. [online] Fortunly. Available at: https://fortunly.com/statistics/video-game-industry-statistics/#gref.

De Vaus, D.A. (2001). *Research design in social research*. London ; Thousand Oaks, Calif.: Sage.

Defer, A. (2022). E-sport, a new controversial 'soft power' tool for the Gulf countries. *Le Monde.fr*. [online] 21 Jul. Available at: https://www.lemonde.fr/en/pixels/article/2022/07/21/e-sport-a-new-controversial-soft-power-tool-for-the-gulf-countries_5990850_13.html [Accessed 1 Aug. 2022].

Denzin, N.K. and Lincoln, Y.S. (2018). *The Sage Handbook of Qualitative Research*. 5th ed. Los Angeles: Sage.

Depken, C.A. (2002). Free Agency and the Concentration of Player Talent in Major League Baseball. *Journal of Sports Economics,* 3(4), pp.335–353. doi:https://doi.org/10.1177/152700250200300403.

deWet, M. (2020). *Peeking into VALORANT's Netcode*. [online] technology.riotgames.com. Available at: https://technology.riotgames.com/news/peeking-valorants-netcode.

Di Ianni, F. (2021). *Esports Media Rights*. [online] Available at: https://www.sheppardmullin.com/media/publication/1962_Esports%20Media%20Rights%20Whitepaper%200921.pdf.

Dillon, R. and Cohen, O. (2013). The Evolution of Business Models in the Video Game Industry. *Proceedings of the International Conference on Managing the Asian Century*, pp.101–108. doi:10.1007/978-981-4560-61-0_12.

Discover Esports (n.d.). *Esports Definition - What Are Esports?* [online] Discover Esports. Available at: https://www.google.com/url?q=https://discoveresports.com/what-are-

esports/&sa=D&source=docs&ust=1644699460724221&usg=AOvVaw1867fEL2arJjNUVuuHxbu9 [Accessed 12 Feb. 2022].

Dota2.com (n.d.). *Dota 2 Esports*. [online] www.dota2.com. Available at: https://www.dota2.com/esports/ti11/about#:~:text=Unlike%20previous%20years%2C%20there%20are [Accessed 15 Jun. 2022].

Dring, C. (n.d.). *The Games Publisher's Guide to Esports*. [online] Available at: https://blog.the-esports-bar.com/wp-content/uploads/2020/08/GI_Esports_White-paper_Digital_Dev2.pdf.

Dubois, A. and Gadde, L.-E. (2002). Systematic combining: an abductive approach to case research. *Journal of Business Research*, [online] 55(7), pp.553–560. doi:10.1016/s0148-2963(00)00195-8.

Dudovskiy, J. (2012). *Axiology - Research-Methodology*. [online] Research-Methodology. Available at: https://research-methodology.net/research-philosophy/axiology-2/.

Duran, H.B. (2021). *A guide to: Overwatch League sponsors, past and present*. [online] Esports Insider. Available at: https://esportsinsider.com/2021/04/overwatch-league-sponsors/ [Accessed 30 May 2022].

Duwe, S. (2021). *What does 'scrim' mean in gaming?* [online] Dot Esports. Available at: https://dotesports.com/general/news/what-does-scrim-mean-in-gaming [Accessed 9 Jun. 2022].

Egenes, B. (2021). *Why any developer can — and should — join the esports boom (VB Live)*. [online] VentureBeat. Available at: https://venturebeat.com/2021/04/12/why-any-developer-can-and-should-join-the-esports-boom-vb-live/ [Accessed 25 May 2022].

Epic Games (2019). *The Fortnite World Cup | A Record-Setting Tournament*. [online] Epic Games' Fortnite. Available at: https://www.epicgames.com/fortnite/en-US/news/the-fortnite-world-cup-a-record-setting-tournament.

Epic Games (n.d.). *Join the Fortnite Crew*. [online] Epic Games' Fortnite. Available at: https://www.epicgames.com/fortnite/en-US/fortnite-crew-subscription [Accessed 10 May 2022].

Esguerra, T. (2021). *Worlds 2021 hits record-breaking 4 million peak viewership during finals between EDG and DWG KIA*. [online] Dot Esports. Available at: https://dotesports.com/league-of-legends/news/worlds-2021-hits-record-breaking-4-million-peak-viewership-during-finals-between-edg-and-dwg-kia.

ESPN.com (2020). *How coronavirus is affecting esports and gaming events*. [online] ESPN.com. Available at: https://www.espn.co.uk/esports/story/_/id/28852881/how-coronavirus-affecting-esports-gaming-events.

Esports Charts (2022). *Fortnite - Esports Viewership and Statistics | Esports Charts*. [online] Escharts.com. Available at: https://escharts.com/games/fortnite [Accessed 7 Jul. 2022].

Esports Earnings. (n.d.). *Esports Earnings: Prize Money / Results / History / Statistics*. [online] Available at: https://www.esportsearnings.com/.

ESRC (n.d.). *Risk and benefit*. [online] www.ukri.org. Available at: https://www.ukri.org/councils/esrc/guidance-for-applicants/research-ethics-guidance/risk-and-benefit/.

Faber, T. (2021). Twitch, YouTube and the rise of video game live-streaming. *Financial Times*. [online] 26 Oct. Available at: https://www.ft.com/content/4e91112c-8f99-422e-be3c-d9e6ad686cdd.

Falchetta, G., Michoud, B., Hafner, M. and Rother, M. (2022). Harnessing finance for a new era of decentralised electricity access: A review of private investment patterns and emerging business models. *Energy Research & Social Science*, 90, p.102587. doi:10.1016/j.erss.2022.102587.

Fanfarelli, J.R. (2018). Expertise in Professional Overwatch Play. *International Journal of Gaming and Computer-Mediated Simulations*, [online] 10(1), pp.1–22. doi:10.4018/ijgcms.2018010101.

FaZeClan.com (n.d.). *FaZe Clan® Official*. [online] FaZe Clan® Official. Available at: https://fazeclan.com/teams/ [Accessed 23 Jul. 2022].

Filchenko, M. (2018). A Comparison Between Esports and Traditional Sports. *ART 108: Introduction to Games Studies*.

Fischer, B. (2018). *Sources: Overwatch League-Twitch Deal Worth At Least $90M*. [online] www.sportsbusinessjournal.com. Available at: https://www.sportsbusinessjournal.com/Daily/Closing-Bell/2018/01/09/overwatch.aspx [Accessed 30 Jul. 2022].

Fleming, T. (2020). *Esports and immersive tech: The perfect match?* [online] Future Visual. Available at: https://www.futurevisual.com/blog/weavr-esports-immersive-tech/ [Accessed 30 Jul. 2022].

Fletcher, A. (2015). *esports Marketing: The Birth of a Nation – ARCHIVE - The Esports Observer*. [online] The Esports Observer. Available at: https://archive.esportsobserver.com/esports-marketing-the-birth-of-a-nation/ [Accessed 19 Jul. 2022].

Flyvbjerg, B. (2014). What you Should Know about Megaprojects and Why: An Overview. *Project Management Journal*, [online] 45(2), pp.6–19. doi:10.1002/pmj.21409.

Freeman, G. and Wohn, D.Y. (2017). esports as An Emerging Research Context at CHI. *Proceedings of the 2017 CHI Conference Extended Abstracts on Human Factors in Computing Systems - CHI EA '17*. [online] doi:10.1145/3027063.3053158.

Freudenberg, M. (2003). OECD Science, Technology and Industry Working Papers. *OECD Science, Technology and Industry Working Papers*. doi:10.1787/18151965.

Fudge, J. (2021). *Riot Games reveals Worlds 2021 Finals viewership numbers*. [online] www.sportsbusinessjournal.com. Available at: https://www.sportsbusinessjournal.com/Esports/Sections/Media/2021/11/Worlds-2021-Finals-AMA.aspx.

Funk, D.C., Pizzo, A.D. and Baker, B.J. (2018). eSport management: Embracing eSport education and research opportunities. *Sport Management Review*, 21(1), pp.7–13. doi:10.1016/j.smr.2017.07.008.

Funke, I. (2021). *Competitive Fortnite for 2021 has the lowest prize pool ever and players are outraged*. [online] www.sportskeeda.com. Available at: https://www.sportskeeda.com/esports/news-competitive-fortnite-2021-lowest-prize-pool-ever-players-outraged [Accessed 7 Jul. 2022].

García, J. and Murillo, C. (2020). Sports video games participation: what can we learn for esports? *Sport, Business and Management: An International Journal*, ahead-of-print(ahead-of-print). doi:10.1108/sbm-01-2019-0006.

Garst, A. (2019). *After three seasons, Overwatch Contenders' problems haven't been solved*. [online] Heroes Never Die. Available at: https://www.heroesneverdie.com/2019/2/25/18239998/overwatch-contenders-overview-tier-two-esports [Accessed 30 Jul. 2022].

Gasparetto, T. and Barajas, A. (2021). Wage Dispersion and Team Performance: The Moderation Role of Club Size. *Journal of Sports Economics*, p.152700252110677. doi:https://doi.org/10.1177/15270025211067793.

Gaudiosi, J. (2015). *Why Gamers Flock To esports Events*. [online] AList. Available at: https://www.alistdaily.com/strategy/why-gamers-flock-to-esports-events/.

Gawrysiak, J., Burton, R., Jenny, S. and Williams, D. (2020). Using Esports Efficiently to Enhance and Extend Brand Perceptions – A Literature Review. *Physical Culture and Sport. Studies and Research*, 0(0). doi:10.2478/pcssr-2020-0008.

Geyser, W. (2022). *The Incredible Growth of esports [+ esports Statistics]*. [online] Influencer Marketing Hub. Available at: https://influencermarketinghub.com/esports-stats/.

Gideon, M. (2022). *Report: Esports Tournament Prize Money Increased By 60% Last Year*. [online] Business of Esports. Available at: https://thebusinessofesports.com/2022/01/26/report-esports-tournament-prize-money-increased-by-60-last-year/ [Accessed 29 Jun. 2022].

Giza, H. (2020). *The Call of Duty League's Problems and How to Fix Them*. [online] estnn.com. Available at: https://estnn.com/the-call-of-duty-leagues-problems-and-how-to-fix-them/ [Accessed 20 May 2022].

Goff, B. (2019). *Long-Term Viewership Trends Show Warnings For NFL, NBA And Other Major Sports*. [online] Forbes. Available at: https://www.forbes.com/sites/briangoff/2019/12/16/long-term-viewership-trends-show-warnings-for-nfl-nba-and-other-major-sports/#36b46e6a584f [Accessed 7 Jul. 2022].

Gold, J.R. and Gold, M.M. (2008). Olympic Cities: Regeneration, City Rebranding and Changing Urban Agendas. *Geography Compass*, [online] 2(1), pp.300–318. doi:10.1111/j.1749-8198.2007.00080.x.

Google Trends (n.d.). *Google Trends*. [online] Google Trends. Available at: https://trends.google.com/trends/?geo=GB.

Gough, C. (2021). *Global esports audience 2020*. [online] Statista. Available at: https://www.statista.com/statistics/1109956/global-esports-audience/.

Gough, C. (2022a). *Global esports market revenue 2022 | Statista*. [online] Statista. Available at: https://www.statista.com/statistics/490522/global-esports-market-revenue/.

Gough, C. (2022b). *Global esports market size 2025*. [online] Statista. Available at: https://www.statista.com/statistics/1256162/global-esports-market-size/.

Graham, B. (2017). *esports to be a medal event at 2022 Asian Games*. [online] the Guardian. Available at: https://www.theguardian.com/sport/2017/apr/18/esports-to-be-medal-sport-at-2022-asian-games.

Gratton, C. and Taylor, P. (2000). *Economics of sport and recreation*. London ; New York: E & Fn Spon.

Greco, S., Ehrgott, M. and FigueiraJ.R. (2016). *Multiple Criteria Decision Analysis*. New York, Ny Springer New York.

Greco, S., Ishizaka, A., Tasiou, M. and Torrisi, G. (2019). On the Methodological Framework of Composite Indices: A Review of the Issues of Weighting, Aggregation, and Robustness. *Social Indicators Research*, 141(1), pp.61–94. doi:10.1007/s11205-017-1832-9.

Greene, J.C. (2007). *Mixed methods in social inquiry*. San Francisco, Ca: Jossey-Bass.

Greene, J.C., Caracelli, V.J. and Graham, W.F. (1989). Toward a Conceptual Framework for Mixed-Method Evaluation Designs. *Educational Evaluation and Policy Analysis*, 11(3), pp.255–274. doi:10.3102/01623737011003255.

Grix, J. (2010). *The foundations of research*. Basingstoke ; New York: Palgrave Macmillan.

Grix, J. (2013). Sport Politics and the Olympics. *Political Studies Review*, 11(1), pp.15–25. doi:10.1111/1478-9302.12001.

Grix, J. and Brannagan, P.M. (2016). Of Mechanisms and Myths: Conceptualising States' 'Soft Power' Strategies through Sports Mega-Events. *Diplomacy & Statecraft*, 27(2), pp.251–272. doi:10.1080/09592296.2016.1169791.

Guttmann, A. (1996). *Games and empires : modern sports and cultural imperialism*. New York: Columbia University Press.

Haider, A. (2021). *CES 2021: Esports growth 'turbocharged' in 2020 due to COVID-19 pandemic*. [online] www.spglobal.com. Available at:

https://www.spglobal.com/marketintelligence/en/news-insights/latest-news-headlines/ces-2021-esports-growth-turbocharged-in-2020-due-to-covid-19-pandemic-62108738.

Hall, S.B. (2020). *COVID-19 is taking gaming and esports to the next level*. [online] World Economic Forum. Available at: https://www.weforum.org/agenda/2020/05/covid-19-taking-gaming-and-esports-next-level.

Hallmann, K. and Giel, T. (2018). esports – Competitive sports or recreational activity? *Sport Management Review*, 21(1), pp.14–20. doi:10.1016/j.smr.2017.07.011.

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

Hamari, J., Hanner, N. and Koivisto, J. (2017). Service quality explains why people use freemium services but not if they go premium: An empirical study in free-to-play games. *International Journal of Information Management*, 37(1), pp.1449–1459. doi:10.1016/j.ijinfomgt.2016.09.004.

Harper, T. (2010). *The Art of War: Fighting Games, Performativity, and Social Game Play*. PhD Thesis.

Hayward, A. (2020). *Call of Duty League unveils partners for inaugural season*. [online] Esports Insider. Available at: https://esportsinsider.com/2020/01/call-of-duty-league-partners/.

He, B. (2021). *E-sports are China's new soft power*. [online] global.chinadaily.com.cn. Available at: https://global.chinadaily.com.cn/a/202102/05/WS601ca3d7a31024ad0baa770b.html [Accessed 1 Aug. 2022].

Heath, J. (2022). *How much is a World of Warcraft Subscription*. [online] Dot Esports. Available at: https://dotesports.com/news/how-much-is-a-world-of-warcraft-subscription [Accessed 10 May 2022].

Hemphill, D. (2005). Cybersport. *Journal of the Philosophy of Sport*, 32(2), pp.195–207. doi:10.1080/00948705.2005.9714682.

Herbert, C. (2021). *Hashtag United to receive first-ever transfer fee for esports FIFA player*. [online] JOE.co.uk. Available at: https://www.joe.co.uk/news/hashtag-united-to-receive-first-ever-transfer-fee-for-esports-fifa-player-2-284988.

Heron, J. (1996). *Co-operative inquiry : research into the human condition*. London: Sage.

Hewson, M. (n.d.). *Investing in Esports: Stocks to Watch in 2022 | CMC Markets*. [online] www.cmcmarkets.com. Available at: https://www.cmcmarkets.com/en-gb/trading-guides/esports-stocks.

Hicks, J. (2021). *Fog of War: Will Call of Duty League's On-Line Pandemic Problems Continue in 2021? – ARCHIVE - The Esports Observer*. [online] The Esports Observer. Available at: https://archive.esportsobserver.com/opinion-cdl-foley-lardner/ [Accessed 30 Jul. 2022].

Hiller, H.H. (2000). Toward an urban sociology of mega-events. In: *Constructions of Urban Space*. [online] Emerald Group Publishing, pp.181–205. doi:10.1016/s1047-0042(00)80026-4.

Hitt, K. (2020). *2021 Will be a Crucial Year for Esports Leagues as They Look to Sell Media Rights in a COVID-19 World – ARCHIVE - The Esports Observer*. [online] The Esports Observer. Available at: https://archive.esportsobserver.com/media-rights-covid-19-2021/ [Accessed 15 Jun. 2022].

Hogue, R. (2011). *Constructivism and qualitative research*. [online] Rebecca J. Hogue. Available at: https://rjhogue.name/2011/10/15/constructivism-and-qualitative-research/.

Holt, K. (2020). *It's Time For 'Overwatch' To Go Free-To-Play*. [online] Forbes. Available at: https://www.forbes.com/sites/krisholt/2020/07/21/overwatch-free-to-play-opinion/?sh=6f6cf98f10fc [Accessed 30 Jul. 2022].

Holt, K. (2021). *'Overwatch 2' Is Looking Fantastic, But The Lack Of New Content For The Original Game Remains A Letdown*. [online] Forbes. Available at: https://www.forbes.com/sites/krisholt/2021/02/19/overwatch-2-is-looking-fantastic-but-the-lack-of-new-content-for-the-original-game-remains-a-letdown/?sh=bd958cf2f7ec [Accessed 30 Jul. 2022].

Hore, J. (2021). *Overwatch World Cup: dates, teams, prize pool, and how to watch*. [online] The Loadout. Available at: https://www.theloadout.com/tournaments/overwatch-world-cup/owwc [Accessed 30 Jul. 2022].

Horne, J. (2021). *Research Handbook on Sports and Society*. Edward Elgar Publishing.

Huff, R. (2013). *UFC Support of IMMAF Could Completely Reshape, Strengthen the Sport*. [online] Bleacher Report. Available at: https://bleacherreport.com/articles/1144144-ufc-support-of-immaf-could-completely-reshape-strengthen-the-sport [Accessed 27 Jul. 2022].

Hume, M. (2019). New Call of Duty esports league will begin play in home markets in 2020, start with 12 teams. *Washington Post*. [online] 25 Sep. Available at: https://www.washingtonpost.com/sports/2019/09/25/new-call-duty-esports-league-will-begin-play-home-markets-start-with-teams/.

Humphreys, B.R. and Johnson, C. (2019). The Effect of Superstars on Game Attendance: Evidence From the NBA. *Journal of Sports Economics,* 21(1), p.152700251988544. doi:https://doi.org/10.1177/1527002519885441.

Insider Intelligence (2022). *Esports Ecosystem in 2022: Key industry companies, viewership growth trends, and market revenue stats*. [online] Insider Intelligence. Available at: https://www.insiderintelligence.com/insights/esports-ecosystem-market-report.

Isacsson, A., Heinilä, H., Raatikainen, E., Simola-Alha, N. and Järvensivu, A. (2022). *Teaching, Learning and Teacher Education: Emerging Issues in Research on Vocational Education & Training vol. 5*. Premiss Förlag.

Jagex (2020). *RuneScape hits all-time membership high in 2019*. [online] Jagex. Available at: https://www.jagex.com/en-GB/news/51NK7q/runescape-hits-all-time-membership-high-in-2019 [Accessed 10 May 2022].

Jago, L.K. and Shaw, R.N. (1998). Special Events: A Conceptual and Definitional Framework. *Festival Management and Event Tourism*, 5(1), pp.21–32. doi:10.3727/106527098792186775.

Jang, W.W., Kim, K.A. and Byon, K.K. (2020). Social Atmospherics, Affective Response, and Behavioral Intention Associated With Esports Events. *Frontiers in Psychology*, 11. doi:10.3389/fpsyg.2020.01671.

Jansz, J., Avis, C. and Vosmeer, M. (2010). Playing The Sims2: an exploration of gender differences in players' motivations and patterns of play. *New Media & Society*, 12(2), pp.235–251. doi:10.1177/1461444809342267.

Jenny, S.E., Manning, D.R., Keiper, M.C. and Olrich, T.W. (2017). Virtual(ly) Athletes: Where esports Fit Within the Definition of 'Sport'. *Quest*, [online] 69(1), pp.1–18. doi:10.1080/00336297.2016.1144517.

Jin, D.Y. (2010). esports and Television Business in the Digital Economy. *Korea's Online Gaming Empire*, pp.59–80. doi:10.7551/mitpress/9780262014762.003.0004.

Jogulu, U.D. and Pansiri, J. (2011). Mixed methods: a research design for management doctoral dissertations. *Management Research Review*, 34(6), pp.687–701. doi:10.1108/01409171111136211.

Johnson, R.B. and Onwuegbuzie, A.J. (2004). Mixed Methods Research: a Research Paradigm Whose Time Has Come. *Educational Researcher*, [online] 33(7), pp.14–26. doi:10.3102/0013189x033007014.

Jonasson, K. and Thiborg, J. (2010). Electronic sport and its impact on future sport. *Sport in Society*, 13(2), pp.287–299. doi:10.1080/17430430903522996.

Kane, D. and Spradley, B. (2017). Recognizing ESports as a Sport. *The Sport Journal*.

Kararach, G., Nhamo, G., Mubila, M. and Nhamo, S. (2017). *Table 1 : Advantages and disadvantages of composite indicators*. [online] ResearchGate. Available at: https://www.researchgate.net/figure/Advantages-and-disadvantages-of-composite-indicators_tbl1_316450031.

Karhulahti, V.-M. (2017). Reconsidering Esport: Economics and Executive Ownership. *Physical Culture and Sport. Studies and Research*, 74(1), pp.43–53. doi:10.1515/pcssr-2017-0010.

Ke, X. and Wagner, C. (2022). Global pandemic compels sport to move to esports: understanding from brand extension perspective. *Managing Sport and Leisure*, 27(1), pp.1–6. doi:10.1080/23750472.2020.1792801.

Keim, M. (2015). *A Cost Benefit Analysis of Hosting the olympics: a Case Study of the 2000 Sydney Olympics*. Thesis.

Keiper, M.C., Manning, R.D., Jenny, S., Olrich, T. and 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), pp.143–160. doi:10.1080/19357397.2017.1316001.

Kelemen, M. and Rumens, N. (2012). Pragmatism and heterodoxy in organization research. *International Journal of Organizational Analysis*, 20(1), pp.5–12. doi:10.1108/19348831211215704.

Kelly, L.M. and Cordeiro, M. (2020). Three principles of pragmatism for research on organizational processes. *Methodological Innovations*, [online] 13(2), p.205979912093724. doi:10.1177/2059799120937242.

Ketokivi, M. and Mantere, S. (2010). Two Strategies for Inductive Reasoning in Organizational research. *Academy of Management Review*, 35(2), pp.315–333. doi:10.5465/amr.2010.48463336.

Kharpal, A. (2021). *'League of Legends' maker Riot Games to 'double down' in China as gaming growth continues*. [online] CNBC. Available at: https://www.cnbc.com/2021/07/30/league-of-legends-maker-riot-games-to-double-down-in-china-as-gaming-growth-continues.html.

Kirsh, R. (n.d.). *Esports Earnings 1998 - 2021*. [online] www.kaggle.com. Available at: https://www.kaggle.com/datasets/rankirsh/esports-earnings?resource=download&select=HistoricalEsportData.csv [Accessed 30 May 2022].

Klenke, K. (2016). *Qualitative Research in the Study of Leadership*. Emerald Group Publishing Limited.

Kornaszewski, J. (n.d.). *Katowice: A City in Poland Became the World Esports Capital [Case Study]*. [online] Prowly Magazine. Available at: https://prowly.com/magazine/katowice-a-city-in-poland-became-the-world-esports-capital-case-study/#:~:text=Together%20with%20the%20world [Accessed 30 Jul. 2022].

Kumar, R. (2019). *Research methodology : a step-by-step guide for beginners*. 5th ed. Los Angeles [U.A.] Sage.

Lalonde, V. (n.d.). *The rise of esports and how to grasp the opportunities*. [online] Dept Agency. Available at: https://www.deptagency.com/en-gb/insight/the-rise-of-esports-and-how-to-grasp-the-opportunities/#:~:text=The%20esports%20demographic%20ranges%20from.

Landman, T. (2000). *Issues and methods in comparative politics : an introduction*. Abingdon: Routledge.

Lane, B. (2021). *RANKED: Every nation at the Tokyo Olympics by the number of athletes they have taken to Japan*. [online] Business Insider. Available at: https://www.businessinsider.in/sports/news/ranked-every-nation-at-the-tokyo-olympics-by-the-number-of-athletes-they-have-taken-to-japan/slidelist/84690956.cms [Accessed 30 Jul. 2022].

Lange, D. (2020). *Attendance at multi-sport and Olympic games 2017*. [online] Statista. Available at: https://www.statista.com/statistics/984773/multisport-olympics-attendance/.

Larch, F. (2019). *The History of the Origin of esports*. [online] Ispo.com. Available at: https://www.ispo.com/en/markets/history-origin-esports.

Lee, B. and Saunders, M.N.K. (2017). *Conducting case study research for businesss and management students*. Los Angeles: Sage Publications Ltd.

Lee, D. and Schoenstedt, L.J. (2011). Comparison of esports and Traditional Sports Consumption Motives. *ICHPER-SD Journal of Research*, 6(2), pp.33–44.

Lee, E. (2019). *Esports vs Sports | Can Esports Compete with Traditional Sports?* [online] SYR-UMT. Available at: https://onlinegrad.syracuse.edu/blog/esports-to-with-traditional-sports/.

Leroux-Parra, M. (2020a). *Esports Part 1: What are Esports?* [online] Harvard International Review. Available at: https://hir.harvard.edu/esports-part-1-what-are-esports/.

Leroux-Parra, M. (2020b). *Esports Part 2: The Evolving Rules of Esports*. [online] Harvard International Review. Available at: https://hir.harvard.edu/esports-part-2/.

Leroux-Parra, M. (2020c). *Esports Part 3: League of Legends, The Esport That's Rivaling Giants*. [online] Harvard International Review. Available at: https://hir.harvard.edu/esports-part-3/.

Lin, H. and Sun, C.-T. (2010). Cash Trade in Free-to-Play Online Games. *Games and Culture*, 6(3), pp.270–287. doi:10.1177/1555412010364981.

Lincoln, Y.S. and Guba, E.G. (1994). *Handbook of qualitative research*. Thousand Oaks: Sage, pp.105–117.

Lingle, S. (2015). *Overwatch's future as a competitive game is bright, and this is why*. [online] Dot Esports. Available at: https://dotesports.com/general/news/overwatch-competitive-game [Accessed 7 Jul. 2022].

Lokhman, N., Karashchuk, O. and Kornilova, O. (2018). Analysis of esports as a commercial activity. *Problems and Perspectives in Management*, 16(1), pp.207–213. doi:10.21511/ppm.16(1).2018.20.

Lopez, J. (2020). *History of Professional Call of Duty*. [online] Hotspawn. Available at: https://www.hotspawn.com/call-of-duty/guides/history-of-professional-call-of-duty.

LPL (2016). *Traditional Sports teams acquiring esports teams*. [online] letsplay.live. Available at: https://letsplay.live/article/14/Traditional-Sports-teams-acquiring-esports-teams/ [Accessed 10 Mar. 2022].

Lu, A.X. (2020). *Rokid AR Glasses Used for First Time at League of Legends World Championship*. [online] Pandaily. Available at: https://pandaily.com/rokid-ar-glasses-used-for-first-time-at-league-of-legends-world-championship/ [Accessed 19 Jul. 2022].

Luton, W. (2013). *Free 2 Play: Making Money from Games You Give Away*. New Riders.

M. Scholz, T. and Nothelfer, N. (2022). *Esports – policy recommendations*. [online] Research4Committees. Available at: https://research4committees.blog/2022/05/12/esports-policy-recommendations/ [Accessed 21 Jul. 2022].

Ma, H., Wu, Y. and Wu, X. (2012). Research on Essential Difference of E-Sport and Online Game. *Lecture Notes in Electrical Engineering*, pp.615–621. doi:10.1007/978-1-4471-4796-1_79.

Macey, J. and Hamari, J. (2018). esports, skins and loot boxes: Participants, practices and problematic behaviour associated with emergent forms of gambling. *New Media & Society*, 21(1), pp.20–41. doi:10.1177/1461444818786216.

Macey, J., Tyrväinen, V., Pirkkalainen, H. and Hamari, J. (2020). Does esports spectating influence game consumption? *Behaviour & Information Technology*, pp.1–17. doi:10.1080/0144929x.2020.1797876.

MacLeod, R. (2019). *The Fortnite World Cup Was A Kids' Paradise*. [online] Kotaku. Available at: https://kotaku.com/the-fortnite-world-cup-was-a-kids-paradise-1836804682 [Accessed 30 Jul. 2022].

Malina, M.A., Nørreklit, H.S.O. and Selto, F.H. (2011). Lessons learned: advantages and disadvantages of mixed method research. *Qualitative Research in Accounting & Management*, [online] 8(1), pp.59–71. Available at: https://doi.org/10.1108/11766091111124702.

Marsh, J. (2022). *CS:GO Stars Want Rio Major To Be Played In Maracanã Stadium Following One-Hour Sell Out*. [online] www.ggrecon.com. Available at: https://www.ggrecon.com/articles/csgo-stars-want-rio-major-to-be-played-in-maracana-stadium-following-one-hour-sell-out/ [Accessed 1 Jun. 2022].

Marshall, C. and Rossman, G.B. (1989). *Designing qualitative research*. Thousands Oaks, Calif.: Sage Publications.

Massarczyk, E., Winzer, P. and Bender, S. (2019). Economic Evaluation of Business Models in Video Gaming Industry from Publisher Perspective. *Lecture Notes in Computer Science*, pp.479–489. doi:10.1007/978-3-030-34350-7_46.

Maxwell, J.A. and Mittapalli, K. (2010). Realism as a Stance for Mixed Methods Research. *SAGE Handbook of Mixed Methods in Social & Behavioral Research*, 2, pp.145–168. doi:10.4135/9781506335193.n6.

Mcalpine, A. (2021). *Why Does Esport Game Popularity Differ So Much By Region?* [online] estnn.com. Available at: https://estnn.com/why-does-esport-game-popularity-differ-so-much-by-region/ [Accessed 7 Jul. 2022].

McCarthy, C. (2019). *Esports and the city: How smaller European cities are transforming their image via video games*. [online] SportBusiness. Available at: https://www.sportbusiness.com/2019/08/esports-and-the-city-how-smaller-european-cities-are-transforming-their-image-via-video-games/?registered_metered=1 [Accessed 30 Jul. 2022].

Mcleod, S. (2019). *Case Study Method*. [online] Simplypsychology.org. Available at: https://www.simplypsychology.org/case-study.html.

McWhertor, M. (2020). *Overwatch free PC giveaway shut down*. [online] Polygon. Available at: https://www.polygon.com/2020/9/30/21495654/overwatch-free-download-pc-blizzard-battle-net [Accessed 30 Jul. 2022].

Meier, K.V. (1988). Triad Trickery: Playing With Sport and Games. *Journal of the Philosophy of Sport*, 15(1), pp.11–30. doi:10.1080/00948705.1988.9714458.

Miles, E. (2017). EU court says bridge is a sport, should be tax-exempt in Britain. *Reuters*. [online] 15 Jun. Available at: https://www.reuters.com/article/us-britain-eu-court-idUSKBN1961T8 [Accessed 13 Mar. 2022].

Miller, C. (2020). *Overwatch Is Far From Dead; Recent Financial Reports Show 10 Million Monthly Active Users | Happy Gamer*. [online] HappyGamer. Available at: https://happygamer.com/overwatch-is-far-from-dead-recent-financial-reports-show-10-million-monthly-active-users-90177/ [Accessed 30 Jul. 2022].

Mills, B.M. and Rosentraub, M.S. (2013). Hosting mega-events: A guide to the evaluation of development effects in integrated metropolitan regions. *Tourism Management*, 34, pp.238–246. doi:10.1016/j.tourman.2012.03.011.

MLB.com (n.d.). *26-man Roster | Glossary*. [online] MLB.com. Available at: https://www.mlb.com/glossary/transactions/26-man-roster.

Moffat, K. and Brennan, A. (2021). *Two Sides: Should Esports be Considered Sports? | Redbrick Sport*. [online] Redbrick. Available at: https://www.redbrick.me/two-sides-esports-sports/#:~:text=Esports%20are%20seen%20to%20be [Accessed 12 Mar. 2022].

Moncav, M. (2019). *Overwatch in-game sales generate more than $1 billion*. [online] WIN.gg. Available at: https://win.gg/news/overwatch-in-game-sales-generate-more-than-dollar-1-billion/.

Morgan, D.L. (2014). Pragmatism as a Paradigm for Social Research. *Qualitative Inquiry*, 20(8), pp.1045–1053. doi:10.1177/1077800413513733.

Morrow, D. (1992). The institutionalization of sport: a case study of Canadian Lacrosse, 1844–1914. *The International Journal of the History of Sport*, 9(2), pp.236–251. doi:10.1080/09523369208713792.

Müller, M. (2015). What makes an event a mega-event? Definitions and sizes. *Leisure Studies*, [online] 34(6), pp.627–642. doi:10.1080/02614367.2014.993333.

Navarre, T. de la (2020). *Biggest esports Live Events in History: Top 5 Largest Tournaments Ever*. [online] Esports Teams, Rankings & Articles. Available at: https://www.lineups.com/esports/biggest-esports-live-events-in-history/.

Nye, J. (2012). *Bound to lead : the changing nature of American power*. New York: Basic Books.

O'Connor, E.L., Longman, H., White, K.M. and Obst, P.L. (2015). Sense of Community, Social Identity and Social Support Among Players of Massively Multiplayer Online Games (MMOGs): A Qualitative Analysis. *Journal of Community & Applied Social Psychology*, 25(6), pp.459–473. doi:10.1002/casp.2224.

O'Keefe, D. (2018). *How Blizzard's StarCraft Became South Korea's National Pastime – ARCHIVE - The Esports Observer*. [online] The Esports Observer. Available at: https://archive.esportsobserver.com/starcraft-ii-esports-essentials [Accessed 30 Jul. 2022].

OECD (2008). *Handbook on Constructing Composite Indicators METHODOLOGY AND USER GUIDE*. [online] Available at: https://www.oecd.org/sdd/42495745.pdf.

Oleskovicz, C. (2021). *How many people play esports*. [online] weplayholding.com. Available at: https://weplayholding.com/blog/how-many-people-play-esports-checking-numbers-of-audience-and-active-players-in-the-most-popular-titles/ [Accessed 20 May 2022].

Overbuff.com (n.d.). *Overbuff - Overwatch Statistics*. [online] www.overbuff.com. Available at: https://www.overbuff.com/.

OverwatchLeague.com (2020). *2021 Player Contract Status - Article Metadata Detail | The Overwatch League*. [online] overwatchleague.com. Available at: https://overwatchleague.com/en-us/news/2021-player-contract-status [Accessed 30 Jul. 2022].

Page, M.J., McKenzie, J.E., Bossuyt, P.M., Boutron, I., Hoffmann, T.C., Mulrow, C.D., Shamseer, L., Tetzlaff, J.M., Akl, E.A., Brennan, S.E., Chou, R., Glanville, J., Grimshaw, J.M., Hróbjartsson, A., Lalu, M.M., Li, T., Loder, E.W., Mayo-Wilson, E., McDonald, S. and McGuinness, L.A. (2021). The PRISMA 2020 statement: an Updated Guideline for Reporting Systematic Reviews. *BMJ*, [online] 372(71), p.n71. doi:10.1136/bmj.n71.

Palmer, D. (2019). *Research Methods in Social Science Statistics*. Scientific e-Resources.

Pannekeet, J. (2018). *Esports Bar & Newzoo*. [online] Available at: https://resources.newzoo.com/hubfs/Reports/Newzoo_Esports_Bar_Understanding_Content_Rights_in_Esports.pdf [Accessed 30 Jul. 2022].

Parker, J. (2020). *Want to Know Overwatch Loot Box Drop Rates? The Secret is Revealed*. [online] Esports Talk. Available at: https://www.esportstalk.com/news/want-to-know-overwatch-loot-box-drop-rates-the-secret-is-revealed/ [Accessed 30 Jul. 2022].

Parry, J. (2018). E-sports are Not Sports. *Sport, Ethics and Philosophy*, 13(1), pp.3–18. doi:10.1080/17511321.2018.1489419.

Parshakov, P. and Zavertiaeva, M. (2018). Determinants of performance in esports: A country-level Analysis. *International Journal of Sport Finance*, 1(13).

Parsons, J. (2019). *Video games are now bigger than music and movies combined*. [online] Metro. Available at: https://metro.co.uk/2019/01/03/video-games-now-popular-music-movies-combined-8304980/.

Patton, M.Q. (2015). *Qualitative Research & Evaluation Methods: Integrating Theory and Practice*. 4th ed. Thousand Oaks, California: Sage Publications, Inc.

PCR (2015). *'They asked us to buy Call of Duty because they didn't have a disc' – the doomed UK esports governing body that time forgot*. [online] PCR. Available at: https://www.pcr-online.biz/2015/04/23/they-asked-us-to-buy-call-of-duty-because-they-didnt-have-a-disc-the-doomed-uk-esports-governing-body-that-time-forgot/ [Accessed 27 Jul. 2022].

Peacock, S. (2019). *Raleigh's Largest Esports Event Generates $1.45 Million in Economic Impact and Drives Employment*. [online] www.visitraleigh.com. Available at: https://www.visitraleigh.com/media/press-release/post/raleighs-largest-esports-event-generates-145-million-in-economic-impact-and-drives-employment/.

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

Perry, K. (2022). *The price of RuneScape membership will increase to an all-time high*. [online] PC Invasion. Available at: https://www.pcinvasion.com/runescape-membership-price-increase/ [Accessed 10 May 2022].

Peskett, J. (2020). *What's the deal with Fortnite wagers?* [online] Fortnite Tracker. Available at: https://fortnitetracker.com/article/917/whats-the-deal-with-fortnite-wagers [Accessed 20 May 2022].

Peters, M., Godfrey, C., McInerney, P., Munn, Z., Trico, A. and Khalil, H. (2020). Chapter 11: Scoping Reviews. *JBI Manual for Evidence Synthesis*. doi:10.46658/jbimes-20-12.

Pickering, J. (2022). *Overwatch 2 beta has started – here's how to sign up*. [online] The Independent. Available at: https://www.independent.co.uk/games/overwatch-2-open-beta-signup-b2111232.html [Accessed 19 Jul. 2022].

Powerhaus Gaming (2018). *Overwatch Tiers: Explained - POWERHAUS*. [online] Powerhaus Gaming. Available at: https://www.powerhaus.gg/overwatch-tiers-explained/.

PriceSpy.com (n.d.). *Overwatch (PC) (PC Games)*. [online] PriceSpy UK. Available at: https://pricespy.co.uk/games-consoles/computer-video-games/pc/overwatch-pc--p2891420/statistics [Accessed 30 Jul. 2022].

PRISMA (n.d.). *PRISMA*. [online] prisma-statement.org. Available at: http://prisma-statement.org/PRISMAStatement/PRISMAStatement.

PSG.fr (n.d.). *About*. [online] EN.PSG.FR. Available at: https://en.psg.fr/esports/about.

Qian, T.Y., Wang, J.J., Zhang, J.J. and Hulland, J. (2020). Fulfilling the Basic Psychological Needs of Esports Fans: A Self-Determination Theory Approach. *Communication & Sport*, 1(25), p.216747952094387. doi:10.1177/2167479520943875.

Raghuram, V. (2020). *Professional COD Player calls the Call of Duty League a 'Joke' after Ridiculous Mixup.* [online] AFK Gaming. Available at: https://afkgaming.com/esports/news/3939-professional-cod-player-calls-the-call-of-duty-league-a-joke-after-ridiculous-mixup [Accessed 20 May 2022].

Randolph, J. (2009). A Guide to Writing the Dissertation Literature Review A Guide to Writing the Dissertation Literature Review. *Practical Assessment, Research, and Evaluation Practical Assessment*, [online] 14(13). Available at: https://scholarworks.umass.edu/cgi/viewcontent.cgi?article=1219&context=pare.

Regnault, A., Willgoss, T. and Barbic, S. (2018). Towards the use of mixed methods inquiry as best practice in health outcomes research. *Journal of Patient-Reported Outcomes*, [online] 2(1). doi:10.1186/s41687-018-0043-8.

Reilly, J. (2011). *Valve Goes Big with Dota 2 Tournament - IGN*. [online] web.archive.org. Available at: https://web.archive.org/web/20121109072431/http://www.ign.com/articles/2011/08/01/valve-goes-big-with-dota-2-tournament [Accessed 7 Jul. 2022].

Reitman, J.G., Anderson-Coto, M.J., Wu, M., Lee, J.S. and Steinkuehler, C. (2019). Esports Research: A Literature Review. *Games and Culture*, 15(1), p.155541201984089. doi:10.1177/1555412019840892.

Reyes, M.S. (2019). *Esports Ecosystem Report 2020: The key industry players and trends growing the esports market which is on track to surpass $1.5B by 2023*. [online] Business Insider. Available at: https://www.businessinsider.com/esports-ecosystem-market-report?r=US&IR=T.

Richman, O. (2021). *Is Overwatch dying heading into 2021? How many still play it?* [online] WIN.gg. Available at: https://win.gg/news/is-overwatch-dying-heading-into-2021-question-mark-how-many-still-play-it-question-mark/ [Accessed 30 Jul. 2022].

Richter, F. (2021). *Infographic: U.S. College Sports Are a Billion-Dollar Game*. [online] Statista Infographics. Available at: https://www.statista.com/chart/25236/ncaa-athletic-department-revenue/.

Ritchie, J.R.B. and Yangzhou, J. (1987). The role and impact of mega-events and attractions on national and regional tourism: A conceptual and methodological overview. In: *Proceedings of*

the 37th Annual Congress of the International Association of Scientific Experts in Tourism (AIEST) in Calgary. AIEST.

Roche, M. (1994). Mega-events and urban policy. *Annals of Tourism Research*, 21(1), pp.1–19. doi:10.1016/0160-7383(94)90002-7.

Roche, M. (2002). *Megaevents and Modernity*. Routledge. doi:10.4324/9780203443941.

Rodgers, B. (1977). *Rationalising sports policies : sport in its social context : international comparisons. Technical supplement*. Strasbourg: Council Of Europe.

Rogers, R., Farquhar, L. and Mummert, J. (2020a). Audience response to endemic and non-endemic sponsors of esports events. *International Journal of Sports Marketing and Sponsorship*, ahead-of-print(ahead-of-print). doi:10.1108/ijsms-09-2019-0107.

Rogers, R., Farquhar, L. and Mummert, J. (2020b). Motivational Differences Among Viewers of Traditional Sports, Esports, and NBA 2K League. *Communication & Sport*, 10(2), p.216747952094273. doi:10.1177/2167479520942738.

Rondina, S. (2022). *HasanAbi talks Mizkif out of Saudi Arabia esportswashing event*. [online] WIN.gg. Available at: https://win.gg/news/hasanabi-talks-mizkif-out-of-saudi-arabia-esportswashing-event/ [Accessed 1 Aug. 2022].

Rossolillo, N. (2022). *Best Esports Stocks & Industry ETFs in 2021*. [online] The Motley Fool. Available at: https://www.fool.com/investing/stock-market/market-sectors/communication/esports-stocks/.

Rotich, N. (2020). *Limitations of Regression*. [online] Medium. Available at: https://towardsdatascience.com/limitations-of-regression-in-scientific-formulation-of-new-equations-7f1e3c6a99a4.

Rottenberg, S. (1956). The Baseball Players' Labor Market. *Journal of Political Economy*, [online] 64(3), pp.242–258. Available at: https://www.jstor.org/stable/1825886#metadata_info_tab_contents [Accessed 22 Jul. 2022].

Rousseau, J. (2021). *Mobile gaming industry to be worth $272bn by 2030 - GlobalData*. [online] GamesIndustry.biz. Available at: https://www.gamesindustry.biz/articles/2021-06-10-mobile-gaming-industry-to-be-worth-usd272bn-by-2030-globaldata.

Rowe, D. (2004). *Sport, culture and the media : the unruly trinity*. Maidenhead: Open University Press.

Royte, D. (2022). *TI10 Prize Pool Compared to Other Esports and Sports Prize Pools*. [online] AFK Gaming. Available at: https://afkgaming.com/dota2/news/8276-ti10-prize-pool-compared-to-other-esports-and-sports-prize-pools [Accessed 29 Jun. 2022].

Rudolf, K., Christopher, G., Silvia, A. and Ingo, F. (2016). Stress im eSport – Ein Einblick in Training und Wettkampf. *eSport Konferenz 'Professionalisierung einer Subkultur?'*

Sacco, D. (2022). *StackPath*. [online] esports-news.co.uk. Available at: https://esports-news.co.uk/2022/05/18/gamers-without-borders-charity-rocket-league-gregan-veracity-casters/ [Accessed 1 Aug. 2022].

Salama, M. (2020). *What is the Role of Events in the Esports World?* [online] WAYA. Available at: https://waya.media/what-is-the-role-of-events-in-the-esports-world/ [Accessed 7 Jul. 2022].

Saltelli, A. (2006). Composite Indicators between Analysis and Advocacy. *Social Indicators Research*, [online] 81(1), pp.65–77. doi:10.1007/s11205-006-0024-9.

Sarkar, S. (2013). *Virgin Gaming opens subscription-based paid esports leagues*. [online] Polygon. Available at: https://www.google.com/url?q=https://www.polygon.com/2013/10/22/4864694/virgin-gaming-premium-subscription-esports-leagues-interview-rob-segal&sa=D&source=docs&ust=1653059830445935&usg=AOvVaw1sjQ0bS6HAjOFnzTJRr9_7 [Accessed 20 May 2022].

Saunders, M., Lewis, P. and Thornhill, A. (2016). *Research methods for business students*. Harlow, United Kingdom: Pearson.

Savov, V. (2015). *Dota 2 is the world's richest e-sport, so why aren't its players happy?* [online] The Verge. Available at: https://www.theverge.com/2015/5/13/8597121/dota-2-professional-gaming-tournaments-the-international [Accessed 21 Jul. 2022].

Scaletta, K. (2011). *Settling the Debates: Is It a Sport or Not a Sport?* [online] Bleacher Report. Available at: https://bleacherreport.com/articles/848465-settling-the-debates-is-it-a-sport-or-not-a-sport.

Scelles, N., Peng, Q. and Valenti, M. (2021). Do the Peculiar Economics of Professional Team Sports Apply to Esports? Sequential Snowballing Literature Reviews and Implications. *Economies*, 9(1), p.31. doi:10.3390/economies9010031.

Schneider, A.J. (2001). Fruits, Apples, and Category Mistakes: On Sport, Games, and Play. *Journal of the Philosophy of Sport*, 28(2), pp.151–159. doi:10.1080/00948705.2001.9714610.

Scholz, T., Völkel, L. and Uebach, C. (2021). Sportification of Esports - A systematization of sport-teams entering the esports ecosystem. *International Journal of Esports*, [online] 2(2). Available at: https://www.ijesports.org/article/48/html.

Scholz, T.M. (2019). *esports is Business*. [online] Cham: Springer International Publishing. doi:10.1007/978-3-030-11199-1.

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

Scholz, T.M. (2021). The Business Model Network of Esports: The Convergence of Overwatch. In: *Global Esports: Transformation of Cultural Perceptions of Competitive Gaming*. S.L.: Bloomsbury.

Schuck, R.I. (2010). The Rhetorical Lines on TV's Poker Face: Rhetorical Constructions of Poker as Sport. *American Behavioral Scientist*, 53(11), pp.1610–1625. doi:10.1177/0002764210368088.

Scully, G.W. (1974). Pay and Performance in Major League Baseball. *The American Economic Review*, [online] 64(6), pp.915–930. Available at: https://www.jstor.org/stable/1815242#metadata_info_tab_contents [Accessed 23 Jul. 2022].

Searl, N. (2020). *Overwatch battle pass? Blizzard teases major changes for franchise*. [online] Dexerto. Available at: https://www.dexerto.com/overwatch/overwatch-battle-pass-blizzard-teases-major-changes-for-franchise-1442728/ [Accessed 25 Aug. 2022].

Segal, D. (2014). Behind League of Legends, E-Sports's Main Attraction. *The New York Times*. [online] 10 Oct. Available at: https://www.nytimes.com/2014/10/12/technology/riot-games-league-of-legends-main-attraction-esports.html.

Seidl, A., Caulkins, J.P., Hartl, R.F. and Kort, P.M. (2018). Serious strategy for the makers of fun: Analyzing the option to switch from pay-to-play to free-to-play in a two-stage optimal control model with quadratic costs. *European Journal of Operational Research*, 267(2), pp.700–715. doi:10.1016/j.ejor.2017.11.071.

Seo, Y. (2016). Professionalized consumption and identity transformations in the field of eSports. *Journal of Business Research*, [online] 69(1), pp.264–272. doi:10.1016/j.jbusres.2015.07.039.

Settimi, C. (2020). *Fortnite Star Tfue Settles Dispute With FaZe Clan, Ending Esports' First Major Employment Lawsuit*. [online] Forbes. Available at: https://www.forbes.com/sites/christinasettimi/2020/08/26/fortnite-star-tfue-settles-dispute-with-faze-clan-ending-esports-first-major-employment-lawsuit/?sh=16fced3422d8 [Accessed 21 Jul. 2022].

Shin, H.B. (2014). Urban spatial restructuring, event-led development and scalar politics. *Urban Studies*, 51(14), pp.2961–2978. doi:10.1177/0042098013515031.

Simons, I. (2018). Events and online interaction: the construction of hybrid event communities. *Leisure Studies*, 38(2), pp.145–159. doi:10.1080/02614367.2018.1553994.

Sinclair, B. (2021). *Worldwide esports viewership will grow to 519 million by 2024 - Report*. [online] GamesIndustry.biz. Available at: https://www.gamesindustry.biz/articles/2021-10-06-worldwide-esports-viewership-will-grow-to-519-million-by-2024-report#:~:text=The%20US%20and%20Europe%20look [Accessed 29 Jun. 2022].

Singer, D. and D'Angelo, E. (n.d.). *Why subscription video-game services face an uphill battle | McKinsey*. [online] www.mckinsey.com. Available at:

https://www.mckinsey.com/industries/technology-media-and-telecommunications/our-insights/the-netflix-of-gaming-why-subscription-video-game-services-face-an-uphill-battle.

Singh, K. (2007). *Quantitative social research methods*. Los Angeles, Calif.: Sage Publ.

Sledge, B. (2021). *Fortnite pros angry at reduced prize pools*. [online] The Loadout. Available at: https://www.theloadout.com/fortnite/chapter-2-season-5-prize-pool-reduction [Accessed 20 May 2022].

Sloane, PeterJ. (1969). THE LABOUR MARKET IN PROFESSIONAL FOOTBALL. *British Journal of Industrial Relations*, 7(2), pp.181–199. doi:10.1111/j.1467-8543.1969.tb00560.x.

Smelser, N.J. (2001). *International Encyclopedia of the Social & Behavioral Sciences*. Amsterdam: Elsevier, Pergamon.

Smith, N. (2022). Inside 'contract hell': Esports players say predatory contracts run 'rampant'. *Washington Post*. [online] 4 Mar. Available at: https://www.washingtonpost.com/video-games/esports/2022/03/04/esports-player-contracts/.

Smythe, J. (2019). *The top 10 most profitable free-to-play online games in 2018*. [online] https://mightygadget.co.uk/. Available at: https://mightygadget.co.uk/the-top-10-most-profitable-free-to-play-online-games-for-2018/.

Snoddy, Z. (2021). *Gaming in the East vs. the West – G-Loot*. [online] gloot.com. Available at: https://gloot.com/blog/gaming-in-the-east-vs-the-west.

Statinvestor (n.d.). *Number of World of Warcraft subscribers from 2015 to 2023*. [online] statinvestor.com. Available at: https://statinvestor.com/data/27003/wow-player-count/ [Accessed 4 May 2022].

Statista (2016). *WoW player count 2015-2023*. [online] Statista. Available at: https://www.statista.com/statistics/276601/number-of-world-of-warcraft-subscribers-by-quarter/.

Statista (2021). *Activision Blizzard: ad spend in the U.S. 2019*. [online] Statista. Available at: https://www.statista.com/statistics/308955/activision-blizzard-advertising-spending-usa/.

Steinberg, L. (2018). What Defines A 'Sport'?. *Forbes*. [online] 28 Jul. Available at: https://www.forbes.com/sites/leighsteinberg/2018/07/28/what-defines-a-sport/?sh=1914fa262d66.

Steiner, D. (2020). *Overwatch League Addresses Low YouTube Viewership*. [online] Esports Talk. Available at: https://www.esportstalk.com/news/overwatch-league-addresses-low-youtube-viewership/.

Steinkuehler, C. (2019). Esports Research: Critical, Empirical, and Historical Studies of Competitive Videogame Play. *Games and Culture*, p.155541201983685. doi:10.1177/1555412019836855.

Stern, A. (2020). *Sources: YouTube's Deal With Activision Blizzard Valued At $160M – ARCHIVE - The Esports Observer*. [online] The Esports Observer. Available at: https://archive.esportsobserver.com/sources-youtube-actiblizzard-160m/.

Stewart, S. (2019). *Video game industry silently taking over entertainment world EJINSIGHT - ejinsight.com*. [online] EJINSIGHT. Available at: https://www.ejinsight.com/eji/article/id/2280405/20191022-video-game-industry-silently-taking-over-entertainment-world.

Stuart, K. (2019). *Fortnite World Cup kicks off with $30m at stake*. [online] the Guardian. Available at: https://www.theguardian.com/games/2019/jul/26/fortnite-world-cup-kicks-off-with-30-million-at-stake-professional-games-tournament.

Subhan, I. (2022). Blizzard confirms Overwatch 2 will replace its predecessor. *Eurogamer.net*. [online] 30 Jun. Available at: https://www.eurogamer.net/blizzard-confirms-overwatch-2-will-replace-its-predecessor [Accessed 19 Jul. 2022].

Suits, B. (1988). *Philosophic inquiry in sport*. Champaign, Ill.: Human Kinetics Publishers.

Summerley, R. (2020). The Development of Sports: A Comparative Analysis of the Early Institutionalization of Traditional Sports and E-Sports. *Games and Culture*, 15(1), pp.51–72. doi:10.1177/1555412019838094.

Tabari, M. (2022). *World of Warcraft's subscription model is destroying the game*. [online] LaptopMag. Available at: https://www.laptopmag.com/features/world-of-warcrafts-subscription-model-is-destroying-the-game [Accessed 20 May 2022].

Taber, K.S. (2018). The Use of Cronbach's Alpha When Developing and Reporting Research Instruments in Science Education. *Research in Science Education*, [online] 48(6), pp.1273–1296. doi:10.1007/s11165-016-9602-2.

Takahashi, D. (2021). *Newzoo: Game livestreaming should grow 10% to 728.8M viewers this year*. [online] VentureBeat. Available at: https://venturebeat.com/2021/03/09/newzoo-game-livestreaming-will-grow-10-to-728-8m-viewers-this-year/.

Tang, T., Kucek, J. and Toepfer, S. (2022). Active Within Structures: Predictors of Esports Gameplay and Spectatorship. *Communication & Sport*, 10(2), p.216747952094274. doi:10.1177/2167479520942740.

Tassi, P. (2014). *ESPN Boss Declares esports 'Not A Sport'*. [online] Forbes. Available at: https://www.forbes.com/sites/insertcoin/2014/09/07/espn-boss-declares-esports-not-a-sport/?sh=a25e9c85f80a [Accessed 9 Jun. 2022].

Taylor, N. (2015). Play to the camera. *Convergence: The International Journal of Research into New Media Technologies*, 22(2), pp.115–130. doi:10.1177/1354856515580282.

Taylor-Hill, G. (2021). *Call of Duty League May Have Failed Before It Has Begun | Facts HERE*. [online] EsportsBets.com. Available at: https://www.esportsbets.com/news/call-of-duty-league-failed/.

Taylor-Hill, G. (2022). *The Unstoppable Future of Esports Betting: what is changing?* [online] EsportsBets.com. Available at: https://www.esportsbets.com/news/unstoppable-future-of-esports-betting/ [Accessed 20 May 2022].

TechACake (2022). *Is Overwatch dead in 2022: how many people play Overwatch?* [online] techacake.com. Available at: https://techacake.com/is-overwatch-dead/ [Accessed 30 Jul. 2022].

The Game Haus (2022). *Esports Trends in Global Regions*. [online] The Game Haus. Available at: https://thegamehaus.com/esports/esports-trends-in-global-regions/2022/02/19/ [Accessed 7 Jul. 2022].

Tiedemann, C. (2004). Sport (and Culture of Human Motion) for Historians, an Approach to make the Central Term(s) more precise. In: *IX. International CESH-Congress*. IX. International CESH-Congress. Crotone, Italy.

Tomić, N., Nenad, Z. and Tomić (2018). economic Model of Microtransactions in video Games. *Journal of Economic Science Research*, [online] 01(1). doi:10.30564/jesr.v1i1.439.

Torrens University (2020). *Why the Sports Industry is Booming in 2020 (and which key players are driving growth)*. [online] Torrens Blog. Available at: https://www.torrens.edu.au/blog/why-sports-industry-is-booming-in-2020-which-key-players-driving-growth#.Yi5wnOj7Q2x [Accessed 13 Mar. 2022].

Transfermarkt (n.d.). *World Cup 2018 - Attendance figures (Detailed view)*. [online] www.transfermarkt.com. Available at: https://www.transfermarkt.com/world-cup-2018/besucherzahlen/pokalwettbewerb/WM18/saison_id/2017/plus/1 [Accessed 30 Jul. 2022].

Tripathy, J.P. (2013). Secondary Data Analysis: Ethical Issues and Challenges. *Iran J Public Health*, 42(12).

Tripp, S., Grueber, M., Simkins, J. and Yetter, D. (2020). *Prepared for: The Entertainment Software Association Prepared by: TEConomy Partners, LLC VIDEO GAMES IN THE ST CENTURY: Prepared for: The Entertainment Software Association Prepared by: TEConomy Partners, LLC VIDEO GAMES IN THE 21ST CENTURY*. [online] Available at: https://www.theesa.com/wp-content/uploads/2019/02/Video-Games-in-the-21st-Century-2020-Economic-Impact-Report-Final.pdf.

Tristão, H. (2022). *Esports Audience Will Pass Half a Billion in 2022 | Esports Market Analysis*. [online] Newzoo. Available at: https://newzoo.com/insights/articles/the-esports-audience-will-

pass-half-a-billion-in-2022-as-revenue-engagement-esport-industry-growth#:~:text=The%20global%20esports%20audience%20will [Accessed 7 Jul. 2022].

Twitchtracker (n.d.). *Twitch Channels, Games and Global Statistics*. [online] TwitchTracker. Available at: https://twitchtracker.com/.

University of Hull (n.d.). *Writing the review: Literature Reviews*. [online] canvas.hull.ac.uk. Available at: https://canvas.hull.ac.uk/courses/779/pages/writing-the-review#:~:text=Funnel%3A%20This%20basically%20works%20as.

Upcomer (2021). *Where 'dead' esports live*. [online] Upcomer. Available at: https://upcomer.com/where-dead-esports-live [Accessed 7 Jul. 2022].

USC (2022). *Research Guides: Organizing Your Social Sciences Research Paper: 4. The Introduction*. [online] Usc.edu. Available at: https://libguides.usc.edu/writingguide/introduction.

Valenti, M., Scelles, N. and Morrow, S. (2018). Women's football studies: an integrative review. *Sport, Business and Management: An International Journal*, 8(5), pp.511–528. doi:https://doi.org/10.1108/sbm-09-2017-0048.

Valentine, R. (2019). *Overwatch 2 announced, will be cross-compatible with original game*. [online] GamesIndustry.biz. Available at: https://www.gamesindustry.biz/overwatch-2-announced-will-be-cross-compatible-with-original-game.

Valentine, R. (2021). *Digital games spending reached $127 billion in 2020*. [online] GamesIndustry.biz. Available at: https://www.gamesindustry.biz/articles/2021-01-06-digital-games-spending-reached-USD127-billion-in-2020.

Van Allen, E. (2017). *How Exactly Does Dota 2 Come Up With Over $20 Million In Prizes For Its Biggest Event?* [online] Kotaku. Available at: https://kotaku.com/how-exactly-does-dota-2-come-up-with-over-20-million-i-1796879005 [Accessed 20 May 2022].

Varghese, D. (2022). The 6 Best Free-to-play Video Games. *Wall Street Journal*. [online] 1 Apr. Available at: https://www.wsj.com/articles/free-to-play-video-games-11648833109 [Accessed 3 May 2022].

Varnajot, A. (2020). The making of the Tour de France cycling race as a tourist attraction. *World Leisure Journal*, 62(3), pp.1–19. doi:10.1080/16078055.2020.1798054.

Venn, M. (2022). *Subject Guides: Systematic Reviews for Health: Building Search Strategies*. [online] utas.libguides.com. Available at: https://utas.libguides.com/SystematicReviews/SearchStrategies.

Wagner, M. (2006). On the Scientific Relevance of esports. In: *Proceedings of the 2006 International Conference on Internet Computing & Conference on Computer Games Development*. Las Vegas, Nevada, USA: ICOMP 2006.

Warlock, L. (2021). *What Generally Happens at an Esports Event?* [online] TalkEsport. Available at: https://www.talkesport.com/inothernews/what-generally-happens-at-an-esports-event/ [Accessed 7 Jul. 2022].

Warr, P. (2016). *esports in numbers: Five mind-blowing stats*. [online] Red Bull. Available at: https://www.redbull.com/int-en/esports-in-numbers-five-mind-blowing-stats.

Wattanapisit, A., Wattanapisit, S. and Wongsiri, S. (2020). Public Health Perspectives on eSports. *Public Health Reports*, 135(3), pp.295–298. doi:10.1177/0033354920912718.

Weedmark, D. (2017). *The Advantages & Disadvantages of a Multiple Regression Model*. [online] Sciencing. Available at: https://sciencing.com/advantages-disadvantages-multiple-regression-model-12070171.html.

Weiss, T. (2008). Cultural Influences on Hedonic Adoption Behavior: Propositions regarding the Adoption of Competitive Video and Computer Online Gaming. In: *DIGIT 2008 Proceedings*.

Wen, A. (2021). *Free-to-play 'Counter-Strike: Global Offensive' players have been punted from ranked matchmaking*. [online] NME. Available at: https://www.nme.com/news/gaming-news/counter-strike-global-offensive-ranked-matchmaking-free-to-play-2958045#:~:text=The%20post%20reiterates%20that%20the [Accessed 10 May 2022].

Wilde, T. (2021). *Nintendo is finally creating officially-licensed esports tournaments for 'Super Smash Bros.'* [online] GeekWire. Available at: https://www.geekwire.com/2021/nintendo-is-finally-creating-officially-licensed-esports-tournaments-for-super-smash-bros/.

Wilkins, M. (2022). *Why Fortnite pros are quitting the game at an unprecedented rate*. [online] www.sportskeeda.com. Available at: https://www.sportskeeda.com/fortnite/why-fortnite-pros-quitting-game-unprecedented-rate [Accessed 7 Jul. 2022].

Williams, D., Yee, N. and Caplan, S.E. (2008). Who plays, how much, and why? Debunking the stereotypical gamer profile. *Journal of Computer-Mediated Communication*, 13(4), pp.993–1018. doi:10.1111/j.1083-6101.2008.00428.x.

Willingham, A. (2018). *What is esports? A look at an explosive billion-dollar industry*. [online] CNN. Available at: https://edition.cnn.com/2018/08/27/us/esports-what-is-video-game-professional-league-madden-trnd/index.html.

Wingfield, N. (2014a). E-Sports at College, With Stars and Scholarships. *The New York Times*. [online] 8 Dec. Available at: https://www.nytimes.com/2014/12/09/technology/esports-colleges-breeding-grounds-professional-gaming.html.

Wingfield, N. (2014b). In E-Sports, Video Gamers Draw Real Crowds and Big Money. *The New York Times*. [online] 30 Aug. Available at: https://www.nytimes.com/2014/08/31/technology/esports-explosion-brings-opportunity-riches-for-video-gamers.html.

Witkowski, E. (2012). On the Digital Playing Field. *Games and Culture*, 7(5), pp.349–374. doi:10.1177/1555412012454222.

Wolf, J. (2018). *Sources: Paris and Guangzhou teams expected to join Overwatch League*. [online] ESPN.com. Available at: https://www.espn.co.uk/esports/story/_/id/24200145/sources-paris-guangzhou-teams-expected-join-overwatch-league [Accessed 30 Jul. 2022].

Wong, D. and Meng-Lewis, Y. (2022). Esports diplomacy – China's soft power building in the digital era. *Managing Sport and Leisure*, pp.1–23. doi:10.1080/23750472.2022.2054853.

Yin, R.K. (2009). Case study research: Design and methods. 4th ed. Los Angeles: Sage Publications.

Yu, H. (2018). Game On: The Rise of the esports Middle Kingdom. *Media Industries Journal*, 5(1). doi:10.3998/mij.15031809.0005.106.

Zhou, J., Shafique, M.N., Adeel, A., Nawaz, S. and Kumar, P. (2017). What is Theoretical Contribution? A Narrative Review. *Sarhad Journal of Management Sciences*, [online] 3(2), pp.261–271. doi:https://doi.org/10.31529/sjms.2017.3.2.6.

Zidan, K. (2022). *Saudi Arabia expands its sportswashing ambitions to the world of gaming*. [online] the Guardian. Available at: https://www.theguardian.com/sport/2022/mar/21/saudi-arabia-expands-its-sportswashing-ambitions-to-the-world-of-gaming.

10. Appendix

10.1 Appendix 3.1

Have you completed relevant training?

Thank you for visiting the Ethics Online System (EthOS)

The University seeks to lead the sector in ensuring that the decisions we make concerning research ethics align with our values as an institution as well as meeting all regulatory requirements. (Manchester Metropolitan University, Research and Knowledge Exchange Strategy 2017).

EthOS is an important part of our efforts to achieve "beyond compliance" status in research ethics and governance.

All members of staff and students who are about to undertake a project or investigation in the broad area of research are required to use EthOS to determine what form of ethical approval, if any is required.

This system will guide you through the process of determining what form of ethical approval is required for your project.

The questions within EthOS will be automatically generated based on your previous answers to ensure that only relevant sections are displayed.

The RKE Strategy can be found by clicking the following link: http://www2.mmu.ac.uk/rke-strategy/

A1 The University is committed to adhering to the principles of the Concordat for Research Integrity and we expect all staff and students to complete the relevant online training. Have you completed the Manchester Metropolitan University Research Integrity training course?

- (•) Yes
- ( ) No

A2 Health and Safety

Every member of staff and students have a responsibility for their own health, safety, and wellbeing, and those around them who may be affected by their acts and omissions. Have you completed any University Health and Safety training?

- ( ) Yes
- (•) No

Page 1 of 15

A3 Data Protection

The University is responsible for complying with the General Data Protection Regulation whenever personal data is processed. Under the Data Protection Policy, all staff and students have a responsibility to comply with the regulation in their day-to-day activities. The first step you can take to understand these responsibilities is to complete the University's Mandatory Data Protection Training. The Data Protection Training can be accessed from the web page https://www2.mmu.ac.uk/data-protection/. To make sure your knowledge up to date, all staff and students must complete the training annually.

Have you completed the Data Protection Training?

- (•) Yes
- ( ) No

Applicant

A4 Applicant Details

Title	First Name	Surname
	Thomas	Newham

Email: thomas.newham@stu.mmu.ac.uk

A4.1 Manchester Metropolitan University ID number

13144333

Applicant Status

A5 In what capacity are you carrying out your project? (see information button for guidance)

As a postgraduate research student

A6 Which Faculty is responsible for the project?

Business and Law

A6.1 Which University Centre for Research and Knowledge Exchange (UCRKE) is responsible for the project?

If you are unsure, please select "Not aligned to any Research Centre").

Future Economies

A6.2 Is your project in its entirety a literature review?

- ○ Yes
- ◉ No

This is the end of the page

Once you have answered all the questions, please click "Next" or "Navigate" on the sidebar to proceed with the application.

Project Information

A7 Your Full Project Title is

Classification, costs, benefits and legacies of sporting and esports events: Do they suffer from a winner's curse?

A8 Project Short Title

This is the title by which your project will be known

Sporting and esports events: Do they suffer from a winner's curse?

A9 Do you propose to commence your data collection within the next 31 days?

- ○ Yes
- ○ Yes - but I have confirmation from my FHREG to proceed with the application
- ○ Yes - but I have ethical approval in place
- ◉ No

A9.1 What is the proposed start date of your data collection?

27/10/2020

A10 Is there any funding attached to this project?

- ○ Yes - I have a Worktribe project ID
- ◉ No
- ○ Yes - but I do not have a Worktribe project ID

This is the end of the page

Once you have answered all the questions, please click "Next" or "Navigate" on the sidebar to proceed with the application.

Does your project require ethical approval?

A11 Please select any statements that apply for your project, relating to previously obtained or required approvals (select all that apply):

- ☐ You want Manchester Metropolitan University to certificate an existing approval you hold from a recognised body
- ☐ You need to apply for ethical approval from a particular recognised approving body or are in the process of being reviewed for ethical approval by such a body
- ☐ You are using ionising radiation as part of your research for medical, biomedical, diagnostic or treatment purposes
- ☐ You want Manchester Metropolitan University to certificate an existing ethical approval you hold from another University?
- ☐ You want to submit an amendment to a project which was approved via the Manchester Metropolitan University paper-based process
- ☐ The project being undertaken within a larger research study for which an application for Manchester Metropolitan University ethical approval has already been submitted
- ☐ You are a member of staff who is applying to do research involving Manchester Metropolitan University staff and/or students, as part of a research degree/qualification with another Institution.
- ☑ This is a new application for ethical approval at Manchester Metropolitan University

This is the end of the page

Once you have answered all the questions, please click "Next" or "Navigate" on the sidebar to proceed with the application.

What will your project involve?

A13 Although it is not possible to provide exhaustive criteria which determine whether or not a proposed project needs ethical review, the following can be used as guidance. Please tick the boxes below for all statements that apply to your project.

- [x] The generation of new ideas, images, performances or artefacts. This also applies for projects that are purely conceptual, or consist only of a literature review, or only use fully anonymised human participant data sourced from 3rd parties
- [ ] Primary data collection from human participants (including, but not limited to interviews, questionnaires, images, artefacts and digital data)
- [ ] Further analysis of identifiable, pre-existing data obtained from human participants
- [ ] Privileged access to personal or clinical records
- [ ] Activities or materials related to terrorism
- [ ] Observation of human participants or the collection of their data without their consent
- [ ] Vulnerable individuals (children, adults who lack the capacity to consent or are temporarily vulnerable within the context of the project)
- [ ] Access to individuals who may pose a safety risk to the researcher
- [ ] Any form of physical and/or psychological risk, damage or distress to the human participant
- [ ] Recompense other than reasonable expenses and compensation for time to the human participant
- [ ] Clinical procedures with human participants
- [ ] The use of novel techniques, even where apparently non-invasive, whose safety may be open to question with human participants
- [ ] The ingestion of any substance by human participants, by any means of delivery
- [ ] The administration of drugs to human participants, by whatever means of delivery
- [ ] The use of ionising radiation or exposure to radioactive materials
- [ ] New human tissue samples or other human biological samples
- [ ] Existing human tissue samples or other human biological samples
- [ ] The use of equipment which may be a medical device, or is a known medical device, but will be used outside its intended purpose and be tested on human participants
- [ ] Biological agents or toxins
- [ ] The design or production of new or substantially improved materials, devices, products or processes
- [ ] Animals, their tissue or their remains
- [ ] Plants or plant matter
- [ ] None of the above

This is the end of the page

Once you have answered all the questions, please click "Next" or "Navigate" on the sidebar to proceed with the application.

Short Description

This section aims to capture the basic project information.

- (•) Begin section

B1 Please provide an abstract for your project

Sporting mega events are one-time sporting events of an international scale organized by a special 'authority' and yielding extremely high levels of media coverage and impacts. The benefits of hosting include a share of billions of dollars in ticket sales, boosts and employment and increased tourism. These benefits are questionable however, and vary from event to event. Esports is a form of sports where the primary aspects of the sport are facilitated by electronic systems, with popular games including Dota 2, Fortnite and Call of Duty. Esports has risen meteorically in recent years, particularly so during the lockdown periods due to COVID-19. The winner's curse is an economic anomaly where the party who wins an auction of a commodity of uncertain value with a fair number of bidders typically pays more than the asset is actually worth. The aim of this project is to explore the existence of the winner's curse in the context of sporting and esports events, with measurement occurring using identification and comparison of costs, benefits and legacies of events. Classification will be the first step towards winner's curse measurement. It is clear to see, and has been argued previously that SMEs can suffer from the winner's curse, but it is worth exploring academically the perumations relating to costs, benefits and legacies when it comes to esports. Furthermore, as a comparison against SMEs, and it is worth considering the winner's curse using costs, benefits and legacies as a measure of whether the WC truly exists or not.

B2 Please provide key words for the project

Sporting mega events, esports, winner's curse,

Project team details

B3 Supervisor Details

Title	First Name	Surname
Dr	Nicolas	Scelles

Organisation	Manchester Metropolitan University
Faculty	Business and Law
Telephone	0161 247 3949
Email	N.Scelles@mmu.ac.uk

B4a Are you the Principal Investigator for the project?

- (•) Yes
- ( ) No

Please enter your details in the Principal Investigator question below

B4 Principal Investigator

Title	First Name	Surname
Mr	Thomas	Newham

Organisation	Manchester Metropolitan University
Faculty	Business and Law
Telephone	07804745297
Email	13144333@stu.mmu.ac.uk

B5 Are other investigators involved in the project?

- (•) Yes
- ( ) No

B5.1

Title	First Name	Surname
Dr	Maurizio	Valenti

Organisation	Manchester Metropolitan University
Faculty	Business and Law
Telephone	0161 247 5138
Email	m.valenti@mmu.ac.uk

B5.1

Title	First Name	Surname
Dr	Jonathan	Grix

Organisation	Manchester Metropolitan University
Faculty	Business and Law
Telephone	0161 247 6773
Email	j.grix@mmu.ac.uk

Timescales

B6 What is the end date of your project?

01/10/2023

Location

B7 Is data collection only taking place on Manchester Metropolitan University sites?

- (•) Yes
- ( ) No

B7.3 Do you have or need any special security clearances for this project?

- ( ) Yes
- (•) No

This is the end of the page

Once you have answered all the questions, please click "Next" or "Navigate" on the sidebar to proceed with the application.

Purpose and Design of the Project

This section aims to identify the purpose and design of the project. The information provided should be clear and concise, to allow the reviewer to understand the reasons why and how the project is being done.

- (•) Begin section

B8 What is the rationale for your project?

There are gaps in the literature relating to classification, there is a lack of research using a qualitative or mixed approach with a heavy focus on quantitative approaches, and there are large gaps in research around esports and esports events.

B9 What is the aim of your project?

Main aim: • Examine the effect of the size of sporting and esports events on their costs, benefits and legacies and identify if they suffer from the winner's curse.

B10 What are your project objectives/questions?

Objectives: • To classify sporting and esports events based on their size • To establish an exhaustive list of the costs, benefits and legacies of sporting and esports events • To consider and compare the costs, benefits and legacies of sporting and esports events • To assess whether they suffer from the winner's curse

B11 Please describe the methodology

Document analysis, literature review

B12 Please describe the methods of data collection

Document analysis, literature review

B13 Please describe your methods of data analysis

Thematic analysis, document analysis.

B14 Please upload your project protocol

Type	Document Name	File Name	Version Date	Version	Size
Project Protocol	RESEARCH PROTOCOL	RESEARCH PROTOCOL.docx	27/09/2020	1	31.8 MB

This is the end of the page.

Once you have answered all the questions, please click "Next" or "Navigate" on the sidebar to proceed with the application.

Risk

C1 Are there any Health and Safety risks to the researcher and/or human participants?

- ○ Yes
- ◉ No

This is the end of the page

Once you have answered all the questions, please click "Next" or "Navigate" on the sidebar to proceed with the application.

Data Access and Transmission

D1 This section aims to identify the access and management of the data within the project.

- (•) Begin section

D2 Is this data sourced from the internet or third party storage?

- (•) Yes
- ( ) No

D2.1 Have you verified you have the rights to access the data?

- (•) Yes
- ( ) No

D3 Have you verified the use of this data does not infringe on any copyright, trademark, or patent?

- (•) Yes
- ( ) No
- ( ) N/A

D4 Will you be using personal data or sensitive personal data?

- ( ) Yes
- (•) No

D5 Will you transfer personal data outside the European Union?

- ( ) Yes
- (•) No

Anonymisation and Identification Keys

D6 Will you be sharing personal data with external sources?

- ( ) Yes
- (•) No

D7 Will you be using audio and/or visual recording devices?

- ( ) Yes
- (•) No

D8 Who will have access to participants' personal data during the project?

No personal data used.

D9 Will you be publishing data from which participants could be identified?

- ○ Yes
- ◉ No

D9.1 Will you be publishing quotes that are directly attributed to participants?

- ○ Yes
- ◉ No

D10 How will you ensure that anonymity will be maintained when publishing the results?

No personal data used.

Storage and Dissemination

D12 Who will have control, and act as custodian of the data generated during the project? (include name, role in the study, contact details)

Thomas Newham - PhD candidate

D13 Please describe what physical security arrangements are in place for the storage of identifiable personal data during the project.

N/A

D15 Where will the data generated by the project be analysed, and by whom?

Data generated on personal computer, analysed by Thomas Newham - PhD candidate

D18 At the end of your project, will the data be made available on an open access repository?

- ○ Yes
- ◉ No

D19 Have you planned for archiving data when the project has ended?

- ○ Yes
- ◉ No

End of Project Data section

This is the end of the page.

Once you have answered all the questions, please click "Next" or "Navigate" on the sidebar to proceed with the application.

Publication and dissemination

E1 How do you intend to report and disseminate the results of this project? (Tick all that apply)

- ☑ Peer reviewed journals
- ☐ Internal report
- ☑ Conference presentation
- ☐ Publication on website
- ☐ Submission to regulatory authorities
- ☐ Publication to funder
- ☐ Access to raw data and right to publish freely by all investigators in the study or by Independent Steering committees on behalf of all investigators
- ☐ No plans to report or disseminate the results
- ☐ Other

E2 Will you be informing participants of the results?

- ○ Yes
- ◉ No

This is the end of the page

Once you have answered all the questions, please click "Next" or "Navigate" on the sidebar to proceed with the application.

Funding

F1 Has internal funding for the project been secured?

- ○ Yes
- ◉ No

F2 Has external funding for the project been secured?

- ○ Yes
- ◉ No

F2.2 Please indicate why no external funding has been secured?

- ○ External funding application to one or more funders in progress
- ◉ No application for external funding will/has been made

F3 What type of project is this?

- ☑ Standalone project
- ☐ Project that is part of a programme grant
- ☐ Programme that is part of a centre grant
- ☐ Project that is part of a fellowship/personal award/research training award
- ☐ Other

This is the end of the page

Once you have answered all the questions, please click "Next" or "Navigate" on the sidebar to proceed with the application.

Insurance and Indemnity

G1 This section aims identify there are any risks relating to insurance and indemnity.

- ◉ Begin section

G2 Will you be travelling outside the UK as part of this project?

- ○ Yes
- ◉ No

Techniques, Testing and Interventions

G3 Does your project involve any of the following techniques, tests or interventions (Please tick all that apply):

- ☐ Physically invasive techniques
- ☐ Ingestion of food stuffs or drugs
- ☐ Physical testing
- ☐ Psychological intervention
- ☑ None of the above

Other Hazards and Additional Information

G4 Are you working with a medical device manufacturer and/or a clinician to develop the product for commercialisation?

- ☐ Working with Hepatitis, Human T-Cell Lymphotropic Virus Type iii (HTLV iii), or Lymphadenopathy Associated Virus (LAV) or the mutants, derivatives or variations thereof or other viruses such as Human Immunodeficiency Virus (HIV) or any syndrome or condition of a similar kind
- ☐ Working with Transmissible Spongiform Encephalopathy (TSE), Creutzfeldt-Jakob Disease (CJD), variant Creutzfeldt-Jakob Disease (vCJD) or new variant Creutzfeldt-Jakob Disease (nvCJD)
- ☐ Working in hazardous areas
- ☐ Working with hazardous substances outside of a controlled environment
- ☐ Working with persons with a known history of violence, substance abuse or a criminal record
- ☑ None of the above

G5 I confirm that if Disclosure and Barring Service (DBS) clearing is required for my project, this will be obtained before the commencement of data collection.

- ○ Yes
- ○ No
- ◉ Not Applicable

G6 Will the project be conducted in line with a specific licence?

- ○ Yes
- ◉ No

This is the end of the page.

Once you have answered all the questions, please click "Next" or "Navigate" on the sidebar to proceed with the application.

Additional Information

This section allows you to include any further information, sign and submit the application for review

- ◉ Begin section

L1 Do you have any additional information or comments which have not been covered in the form?

- ◉ Yes
- ○ No

L1.1 Please enter any additional information or comments to the committee, reviewers or research officers

Minimal impact on ethical guidelines of project - mostly review of literature and publicly available document analysis.

L2 Do you have any additional documentation or forms which you would like to upload in support of your application?

- ○ Yes
- ◉ No

This is the end the page.

Once you have answered all the questions, please click "Next" or "Navigate" on the sidebar to proceed with the application.

Declaration

M1 Please notify your supervisor that this application is complete and ready to be submitted by clicking "Request" below. This application will not be processed until your supervisor has provided their signature - it is your responsibility to ensure that they do this.

Request Signature

Signed: This form was signed by Nicolas Scelles (N.Scelles@mmu.ac.uk) on 28/09/2020 1:11 PM

M3 By signing this application you are confirming that all details included in the form have been completed accurately and truthfully.

Sign

Signed: This form was signed by Thomas Newham (thomas.newham@stu.mmu.ac.uk) on 28/09/2020 1:08 PM

10.2 Appendix 4.1

Event scores data

Event	Location	Game(s)	Attendance (unique viewers)	Attendance (peak viewers)	Attendance (in-person)	Prize money	Political	Technological	Aesthetic	Flyvbjerg (2014) justification
Auto Chess Invitational 2019	Shanghai	Auto Chess	*	8,245	*	1,000,000	0	1	0	First large event of its kind
BlizzCon 2016 (Hearthstone)	Burbank / Anaheim	Hearthstone	*	690,607	27,000	1,000,000	1	0	0	Small city - big event comparatively, first event of its kind

Event	Location	Game(s)	Attendance (unique viewers)	Attendance (peak viewers)	Attendance (in-person)	Prize money	Political	Technological	Aesthetic	Flyvbjerg (2014) justification
Boston Major 2016	Boston	Dota 2	*	5,463,576	3,500	3,000,000	0	0	0	
Call of Duty League Championship 2020	Online	Call of Duty: Modern Warfare	*	331,558	*	4,600,000	0	1	1	First event of its kind in the genre, large online only event
CFS World Championship 2017	Xi'an	Crossfire	37,500,000	*	0	850,000	0	0	0	
DAC 2015	Shanghai	Dota 2	5,430,100	137,353	12,000	3,057,521	0	0	0	
DreamHack Masters Malmo 2017	Malmo	CS:GO	31,000,000	*	12,600	250,000	0	0	0	

Event	Location	Game(s)	Attendance (unique viewers)	Attendance (peak viewers)	Attendance (in-person)	Prize money	Political	Technological	Aesthetic	Flyvbjerg (2014) justification
ESL One 2019	Cologne	CS:GO	*	306,070	15,000	300,000	0	0	0	
ESL One Cologne 2015	Cologne	CS:GO	27,000,000	1,300,000	11,000	250,000	0	0	0	
Fortnite Fall Skirmish Series	Online	Fortnite	*	366,000	0	1,942,500	0	1	0	Large online only event
Fortnite Summer Skirmish Series	Online	Fortnite	*	200,000	0	1,501,250	0	1	0	Large online only event
Fortnite World Cup 2019	New York	Fortnite	*	2,300,000	19,000	33,637,500	0	1	1	First large event of genre

Event	Location	Game(s)	Attendance (unique viewers)	Attendance (peak viewers)	Attendance (in-person)	Prize money	Political	Technological	Aesthetic	Flyvbjerg (2014) justification
Frankfurt Major 2015	Frankfurt	Dota 2	*	206,093	9,800	3,000,000	0	0	0	
Halo World Championship 2016	LA	Halo 5: Guardians	*	135,000	*	2,500,000	0	0	0	
Hearthstone World Championship 2017	Amsterdam	Hearthstone	*	1,797,667	1,200	1,000,000	0	0	0	
Hearthstone World Championship 2019	Taipei	Hearthstone	*	276,206	450	1,000,000	0	0	0	

Event	Location	Game(s)	Attendance (unique viewers)	Attendance (peak viewers)	Attendance (in-person)	Prize money	Political	Technological	Aesthetic	Flyvbjerg (2014) justification
Intel Extreme Masters Katowice 2016	Katowice	CS:GO/LoL/ Starcraft II/Crossfire	34,084,629	2,000,000	113,000	665,000	1	0	0	Comparatively: Small city - big event
Intel Extreme Masters Katowice 2017	Katowice	CS:GO/LoL/ Starcraft II/Crossfire/ PUBG	46,000,000	*	173,000	1,054,000	1	0	0	Comparatively: Small city - big event
Kiev Major 2017	Kiev	Dota 2	*	5,233,717	4,000	3,000,000	1	0	0	Comparatively: Small city - big event
Las Vegas eRace	Las Vegas	rFactor 2	*	12,500	0	1,000,000	0	1	1	Large names competing,

Event	Location	Game(s)	Attendance (unique viewers)	Attendance (peak viewers)	Attendance (in-person)	Prize money	Political	Technological	Aesthetic	Flyvbjerg (2014) justification
										first event of its type
League of Legends World Championship 2013	LA	LoL	32,000,000	*	18,188	2,050,000	0	0	0	
League of Legends World Championship 2014	Seoul	LoL	11,000,000	2,700,000	45,000	2,130,000	0	0	0	
League of Legends World Championship 2015	Europe	LoL	36,000,000	15,000,000	17,000	2,130,000	1	0	0	Spread across multiple cities - first for genre

Event	Location	Game(s)	Attendance (unique viewers)	Attendance (peak viewers)	Attendance (in-person)	Prize money	Political	Technological	Aesthetic	Flyvbjerg (2014) justification
League of Legends World Championship 2016	Chicago/San Francisco/New York/LA	LoL	43,000,000	14,700,000	18,188	5,070,000	0	0	0	
League of Legends World Championship 2017	Beijing	LoL	*	57,586,000	91,000	4,946,969	0	0	0	
League of Legends World Championship 2018	Seoul/Busan/Gwangju/Incheon	LoL	99,600,000	44,000,000	50,256	6,450,000	0	0	0	

Event	Location	Game(s)	Attendance (unique viewers)	Attendance (peak viewers)	Attendance (in-person)	Prize money	Political	Technological	Aesthetic	Flyvbjerg (2014) justification
Magic World Championship XXVI	Honolulu	Magic: The Gathering Arena	*	126,716	*	1,000,000	1	0	0	Comparatively: Small city - big event
Manila Major 2016	Manila	Dota 2	*	680,000	15,000	3,000,000	0	0	0	
Mid-season invitational 2018	Paris/Berlin	LoL	60,000,000	19,800,000	6,804	1,370,520	0	0	0	
Overwatch League Finals 2019	Philadelphia	Overwatch	*	1,120,000	12,000	3,500,000	0	0	0	
PUBG Global	Berlin	PUBG	*	759,000	17,000	2,000,000	0	1	0	First large event of genre

Event	Location	Game(s)	Attendance (unique viewers)	Attendance (peak viewers)	Attendance (in-person)	Prize money	Political	Technological	Aesthetic	Flyvbjerg (2014) justification
Invitational 2018										
PUBG World Championship 2019	Oakland	PUBG	*	186,000	500	4,080,000	0	0	0	
Shadowverse World Grand Prix 2018	Tokyo	Shadowverse	*	21,112	*	1,310,000	0	0	0	
Shadowverse World Grand Prix 2019	Tokyo/Saitama	Shadowverse	*	29,942	*	1,387,727	0	0	0	
Six Invitational 2020	Montreal	Rainbow Six Siege	*	129,822	8,000	3,000,000	0	0	0	

Event	Location	Game(s)	Attendance (unique viewers)	Attendance (peak viewers)	Attendance (in-person)	Prize money	Political	Technological	Aesthetic	Flyvbjerg (2014) justification
SMITE World Championship 2015	Atlanta	SMITE	2,600,000	1,000,000	*	2,612,259	0	1	1	First large event of genre
The International 2013	Seattle	Dota 2	*	1,000,000	2,500	2,874,380	0	0	0	
The International 2014	Seattle	Dota 2	20,000,000	2,000,000	17,459	10,931,105	0	0	0	
The International 2015	Seattle	Dota 2	*	4,600,000	17,459	18,429,613	0	0	0	

Event	Location	Game(s)	Attendance (unique viewers)	Attendance (peak viewers)	Attendance (in-person)	Prize money	Political	Technological	Aesthetic	Flyvbjerg (2014) justification
The International 2016	Seattle	Dota 2	*	5,800,000	17,459	20,770,460	0	0	0	
The International 2017	Seattle	Dota 2	*	5,000,000	17,459	24,787,916	0	0	0	
The International 2018	Vancouver	Dota 2	*	1,205,979	18,910	25,532,177	0	0	0	
The International 2019	Shanghai	Dota 2	*	1,100,000	18,000	34,330,068	0	0	0	

Note. Highest value is taken from unique and peak viewers.

10.3 Appendix 4.2

Final event sizes

Event	Year	Game	Location	Attendance (Online)	Attendance (In-person)	Prize money	Flyvbjerg sublimes (total)	Total	Class
Auto Chess Invitational 2019	2019	Auto Chess	Shanghai	0	0	0	1	1	Minor
Hearthstone World Championship 2019	2019	Hearthstone	Taipei	1	0	0	0	1	Minor
ESL One Cologne 2015	2015	CS:GO	Cologne	2	0	0	0	2	Minor
Las Vegas eRace	2017	rFactor 2	Las Vegas	0	0	0	2	2	Minor

Event	Year	Game	Location	Attendance (Online)	Attendance (In-person)	Prize money	Flyvbjerg sublimes (total)	Total	Class
Magic World Championship XXVI	2020	Magic: The Gathering Arena	Honolulu	1	0	0	1	2	Minor
Shadowverse World Grand Prix 2018	2018	Shadowverse	Tokyo	0	0	2	0	2	Minor
Shadowverse World Grand Prix 2019	2019	Shadowverse	Tokyo/Saitama	0	0	2	0	2	Minor
CFS World Championship 2017	2017	Crossfire	Xi'an	3	0	0	0	3	Minor
ESL One 2019	2019	CS:GO	Cologne	1	2	0	0	3	Minor
Halo World Championship 2016	2016	Halo 5: Guardians	LA	1	0	2	0	3	Minor

Event	Year	Game	Location	Attendance (Online)	Attendance (In-person)	Prize money	Flyvbjerg sublimes (total)	Total	Class
Hearthstone World Championship 2017	2017	Hearthstone	Amsterdam	2	1	0	0	3	Minor
BlizzCon 2016 (Hearthstone)	2016	Hearthstone	Burbank / Anaheim	1	2	0	1	4	Major
DreamHack Masters Malmo 2017	2017	CS:GO	Malmo	2	2	0	0	4	Major
Fortnite Fall Skirmish Series	2018	Fortnite	Online	1	0	2	1	4	Major
Fortnite Summer Skirmish Series	2018	Fortnite	Online	1	0	2	1	4	Major

Event	Year	Game	Location	Attendance (Online)	Attendance (In-person)	Prize money	Flyvbjerg sublimes (total)	Total	Class
Manila Major 2016	2016	Dota 2	Manila	1	2	1	0	4	Major
PUBG World Championship 2019	2019	PUBG	Oakland	1	0	3	0	4	Major
Frankfurt Major 2015	2015	Dota 2	Frankfurt	1	1	3	0	5	Major
Six Invitational 2020	2020	Rainbow Six Siege	Montreal	1	1	3	0	5	Major
The International 2013	2013	Dota 2	Seattle	2	1	2	0	5	Major
Call of Duty League Championship 2020	2020	Call of Duty: Modern Warfare	Online	1	0	3	2	6	Major

Event	Year	Game	Location	Attendance (Online)	Attendance (In-person)	Prize money	Flyvbjerg sublimes (total)	Total	Class
DAC 2015	2015	Dota 2	Shanghai	1	2	3	0	6	Major
Intel Extreme Masters Katowice 2016	2016	CG:GO/LoL/StarCraft II/Crossfire	Katowice	2	3	0	1	6	Major
League of Legends World Championship 2013	2013	LoL	LA	2	2	2	0	6	Major
Mid-season invitational 2018	2018	LoL	Paris/Berlin	3	1	2	0	6	Major
PUBG Global Invitational 2018	2018	PUBG	Berlin	1	2	2	1	6	Major

Event	Year	Game	Location	Attendance (Online)	Attendance (In-person)	Prize money	Flyvbjerg sublimes (total)	Total	Class
SMITE World Championship 2015	2015	SMITE	Atlanta	2	0	2	2	6	Major
Boston Major 2016	2016	Dota 2	Boston	3	1	3	0	7	Mega
Overwatch League Finals 2019	2019	Overwatch	Philadelphia	2	2	3	0	7	Mega
The International 2014	2014	Dota 2	Seattle	2	2	3	0	7	Mega
The International 2018	2018	Dota 2	Vancouver	2	2	3	0	7	Mega

Event	Year	Game	Location	Attendance (Online)	Attendance (In-person)	Prize money	Flyvbjerg sublimes (total)	Total	Class
The International 2019	2019	Dota 2	Shanghai	2	2	3	0	7	Mega
Kiev Major 2017	2017	Dota 2	Kiev	3	1	3	1	8	Mega
League of Legends World Championship 2014	2014	LoL	Seoul	3	3	2	0	8	Mega
League of Legends World Championship 2015	2015	LoL	Europe	3	2	2	1	8	Mega
League of Legends World Championship 2016	2016	LoL	Chicago/San Francisco/New York/LA	3	2	3	0	8	Mega

Event	Year	Game	Location	Attendance (Online)	Attendance (In-person)	Prize money	Flyvbjerg sublimes (total)	Total	Class
The International 2015	2015	Dota 2	Seattle	3	2	3	0	8	Mega
The International 2016	2016	Dota 2	Seattle	3	2	3	0	8	Mega
The International 2017	2017	Dota 2	Seattle	3	2	3	0	8	Mega
Intel Extreme Masters Katowice 2017	2017	CG:GO/LoL/StarCraft II/Crossfire/PUBG	Katowice	3	3	2	1	9	Mega
League of Legends World Championship 2017	2017	LoL	Beijing	3	3	3	0	9	Mega

Event	Year	Game	Location	Attendance (Online)	Attendance (In-person)	Prize money	Flyvbjerg sublimes (total)	Total	Class
League of Legends World Championship 2018	2018	LoL	Seoul/Busan/Gwangju/Incheon	3	3	3	0	9	Mega
Fortnite World Cup 2019	2019	Fortnite	New York	3	2	3	2	10	Giga

10.4 Appendix 5.1

Full index dataset

Event	***Ranking Index***	***Classification Score***	***Ranking Classification***	***Class Classification***	***Class Index***	***Class Same vs. ≠***
		1.321973461	*Giga*	*1*	*1*	
		4.679245283	*Mega*	*15*	*11*	
Min		*0.927697517*	*Minor*	*21*	*19*	
Max			*Major*	*16*	*22*	
					Different	*10*

Fortnite World Cup 2019	*1*	*10*	*1*	*Giga*	*Giga*	*Same*
BlizzCon 2016 (Hearthstone)	*16*	*4*	*27*	*Major*	*Major*	*Same*
Boston Major 2016	*22*	*7*	*12*	*Mega*	*Major*	*Different*
Call of Duty League Championship 2020	*18*	*6*	*17*	*Major*	*Major*	*Same*
DAC 2015	*27*	*6*	*17*	*Major*	*Major*	*Same*
DreamHack Masters Malmo 2017	*25*	*4*	*27*	*Major*	*Major*	*Same*
ESL One Cologne 2015	*29*	*2*	*40*	*Minor*	*Major*	*Different*

Fortnite Fall Skirmish Series	*33*	*4*	*27*	*Major*	*Major*	*Same*
Frankfurt Major 2015	*30*	*5*	*24*	*Major*	*Major*	*Same*
Hearthstone World Championship 2017	*28*	*3*	*33*	*Minor*	*Major*	*Different*
Las Vegas eRace	*34*	*2*	*40*	*Minor*	*Major*	*Different*
League of Legends World Championship 2013	*20*	*6*	*17*	*Major*	*Major*	*Same*
League of Legends World Championship 2014	*21*	*8*	*5*	*Mega*	*Major*	*Different*

Manila Major 2016	*24*	*4*	*27*	*Major*	*Major*	*Same*
Mid-season invitational 2018	*19*	*6*	*17*	*Major*	*Major*	*Same*
Overwatch League Finals 2019	*23*	*7*	*12*	*Mega*	*Major*	*Different*
PUBG Global Invitational 2018	*14*	*6*	*17*	*Major*	*Major*	*Same*
PUBG World Championship 2019	*32*	*4*	*27*	*Major*	*Major*	*Same*
Six Invitational 2020	*31*	*5*	*24*	*Major*	*Major*	*Same*
SMITE World Championship 2015	*17*	*6*	*17*	*Major*	*Major*	*Same*

The International 2013	*26*	*5*	*24*	*Major*	*Major*	*Same*
The International 2014	*15*	*7*	*12*	*Mega*	*Major*	*Different*
The International 2018	*13*	*7*	*12*	*Mega*	*Major*	*Different*
Intel Extreme Masters Katowice 2016	*7*	*6*	*17*	*Major*	*Mega*	*Different*
Intel Extreme Masters Katowice 2017	*2*	*9*	*2*	*Mega*	*Mega*	*Same*
Kiev Major 2017	*6*	*8*	*5*	*Mega*	*Mega*	*Same*
League of Legends World	*4*	*8*	*5*	*Mega*	*Mega*	*Same*

Championship 2015						
League of Legends World Championship 2016	*11*	*8*	*5*	*Mega*	*Mega*	*Same*
League of Legends World Championship 2017	*3*	*9*	*2*	*Mega*	*Mega*	*Same*
League of Legends World Championship 2018	*5*	*9*	*2*	*Mega*	*Mega*	*Same*
The International 2015	*10*	*8*	*5*	*Mega*	*Mega*	*Same*

The International 2016	*9*	*8*	*5*	*Mega*	*Mega*	*Same*
The International 2017	*8*	*8*	*5*	*Mega*	*Mega*	*Same*
The International 2019	*12*	*7*	*12*	*Mega*	*Mega*	*Same*
Auto Chess Invitational 2019	*47*	*1*	*48*	*Minor*	*Minor*	*Same*
CFS World Championship 2017	*37*	*3*	*33*	*Minor*	*Minor*	*Same*
ESL One 2019	*35*	*3*	*33*	*Minor*	*Minor*	*Same*
Fortnite Summer Skirmish Series	*36*	*4*	*27*	*Major*	*Minor*	*Different*

Halo World Championship 2016	*46*	*3*	*33*	*Minor*	*Minor*	*Same*
Hearthstone World Championship 2019	*38*	*1*	*48*	*Minor*	*Minor*	*Same*
Magic World Championship XXVI	*40*	*2*	*40*	*Minor*	*Minor*	*Same*
Shadowverse World Grand Prix 2018	*49*	*2*	*40*	*Minor*	*Minor*	*Same*
Shadowverse World Grand Prix 2019	*48*	*2*	*40*	*Minor*	*Minor*	*Same*
OSRS Battle Royale 3: Veterans 2021	*51*	*0*	*50*	*Minor*	*Minor*	*Same*
OSRS Battle Royale 3: Rookies 2021	*53*	*0*	*50*	*Minor*	*Minor*	*Same*

2020 OSRS Battle Royale	*50*	*0*	*50*	*Minor*	*Minor*	*Same*
EVScape Old School Runescape Battle Royale 2019	*52*	*0*	*50*	*Minor*	*Minor*	*Same*
Arena World Championship 2019	*39*	*3*	*33*	*Minor*	*Minor*	*Same*