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*MBS Outstanding Thesis*

**MBA Master's Thesis**  
**Esports Sponsorship Effectiveness**  
**on Brand Association and**  
**Purchase Intent**



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**Yi-Chun Chen, MBA**

E-Mail: [Yi-Chun.Chen@munich-business-school.de](mailto:Yi-Chun.Chen@munich-business-school.de)

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## **Abstract**

In recent years, esports sponsorship has been growing rapidly. Industries ranging from Hardware, FMCG, Music, to Automotive rely on esports sponsorship to achieve corporate objectives in this high-potential esports market. However, there is limited research on esports sponsorship in the literature; much less on its effectiveness on branding and sales. Therefore, the aim of this study attempts to develop a conceptual model for esports scene and examine how esports sponsorships affect brand association in a consumer's mind as well as a consumer's intent to purchase a sponsor's product. Data were collected from questionnaire responses (391 Taiwanese gamers) and analyzed using structural equation modeling (SEM). The results revealed that both brand association and purchase intent were significantly influenced by *attitudes toward the sponsor*, *sponsor-event fit*, and *activity involvement*. The findings also confirmed the important role of *brand association* in predicting purchase intent. Finally, this paper provides implications for marketers and recommendations for future research.

**Keywords:** Esports, Esports sponsorship, Sponsorship effectiveness, Purchase intent, Brand association

<b>Table of Contents</b>	<b>Page</b>
1 Introduction.....	1
1.1 Background.....	1
1.2 Purpose of Research.....	3
1.3 Structure of Research.....	3
2 Literature Review.....	4
2.1 Overview of Sponsorship.....	4
2.2 Sponsorship Effectiveness.....	7
2.3 Overview of Esports.....	9
2.4 Esports Sponsorship.....	10
3 Conceptual Framework & Hypothesis.....	13
3.1 Conceptual Model.....	13
3.2 Variables Description & Hypothesis.....	14
3.2.1 Independent Measures.....	14
3.2.2 Dependent Measures.....	21
4 Methodology.....	27
4.1 Research Method & Design.....	27
4.1.1 Measurement.....	28
4.1.2 Pilot Test.....	32
4.2 Participants & Procedure.....	34
5 Data Analysis and Result.....	38
5.1 Measurement Model.....	38
5.1.1 Normality Test.....	38
5.1.2 Offending Estimate Test.....	40
5.1.3 Reliability and Validity.....	42
5.1.4 Model Fit.....	45
5.2 Structural Model (Hypotheses Testing).....	47
6 Discussion and Conclusions.....	55
7 Practical Implications.....	58
8 Limitations and Recommendations for Future Research.....	59
8.1 Limitations.....	59
8.2 Recommendations for Future Research.....	60
Bibliography.....	62

Appendix

Statutory Declaration

<b>List of Figures</b>	<b>Page</b>
Figure 1-1: Structure of Research .....	4
Figure 2-1: Conceptual Framework of Speed and Thompson (2000) .....	8
Figure 3-1: Proposed Conceptual Framework for This Study .....	14
Figure 3-2: Structural Model for Hypotheses .....	14
Figure 3-3: Dimensions of Brand Knowledge Depicting Brand Associations .....	23
(Keller, 1993)	
Figure 3-4: Brand Associations .....	24
(Aaker, 1991)	
Figure 4-1: Procedure of Survey Design.....	27
Figure 5-1: Confirmatory Analysis .....	46
Figure 5-2: Standardized Estimates of Structural Model -1 .....	47
Figure 5-3: Standardized Estimates of Structural Model -2 .....	48

<b>List of Tables</b>	<b>Page</b>
Table 2-1: Sponsorship versus Advertising..... (Meenaghan, 2001)	6
Table 3-1: Summary of Hypotheses .....	26
Table 4-1: Summary of Dependent Measures .....	29
Table 4-2: Summary of Independent Measures .....	30
Table 4-3: Reliability Result of Pilot Test.....	32
Table 4-4: Validity Result of Pilot Test.....	33
Table 4-5: Collection of Questionnaires .....	34
Table 4-6: Gender.....	35
Table 4-7: Age .....	35
Table 4-8: Marital Status .....	35
Table 4-9: Education Level.....	36
Table 4-10: Household Income .....	36
Table 4-11: Average Hours of Playing Video Games .....	36
Table 4-12: Average Hours of Watching Esports Streams .....	37
Table 4-13: Whether Following Latest Esports News/Stories .....	37
Table 4-14: Selection of Sponsorship Projects.....	37
Table 5-1: Normality Test .....	39
Table 5-2: Confirmatory Analysis of The Measurement Model .....	40
Table 5-3: Reliability Analysis.....	42
Table 5-4: Test of Discriminant Validity .....	44
Table 5-5: Model Fit of Measurement Model .....	46
Table 5-6: Test of Path Relationship-1 .....	47
Table 5-7: Test of Path Relationship-2.....	48
Table 5-8: Summary of Hypotheses Testing Result .....	52
Table 5-9: ANOVA-Different Esports Tournaments toward Brand Association.....	54
Table 5-10: ANOVA-Different Esports Tournaments toward Purchase Intent .....	54

## **1 Introduction**

### **1.1 Background**

Over the past several decades, sponsorship has been the fastest-growing marketing communication tool, exceeding the growth of advertising and sales promotion (IEG, 2017; IEG, 2018). During 2015 to 2018, the annual growth of global sponsorship was between 4.1% and 4.9%, which surpassed the annual growth of other marketing mix (between 3.1 and 4.3%) (IEG, 2018). The major benefit of the sponsorship is that it enables firms to dialog with specific target audiences in this fragmented mass market and achieve a wide range of brand objectives, such as brand awareness, image, and sales (Ferkins & Garland, 2006). Due to the fierce competition of sponsorship money and tightened economy, evaluating sponsorship effectiveness has become the central interest for many companies (Grohs, 2016). It is also noticeable that in the academic area, there has been a certain amount of research works addressing the topics of sponsorship effectiveness due to its importance. Some of them discussed methods to measure the effects of sponsorship (e.g., McDonald, 1991; Meenaghan, 1991), while others explored the relationship between different factors and sponsorship outcome (e.g., Gwinner, 1997; Speed & Thompson, 2000). Moreover, given that sports occupy the highest percentage of sponsorship spending (Olson, 2010), most of the sponsorship research has been concentrated on sports (Koo, Quarterman, & Flynn, 2006).

Nevertheless, in recent years, the sponsorship expenditure has shifted away from sports to Internet gaming (Meenaghan, McLoughlin, & McCormack, 2013). IEG (2019) also pointed out that the sponsorship investment in gaming and esports (electronic sports) is growing rapidly. Many companies, ranging from FMCG (Fast Moving Consumer Goods), Hardware to Automotive, attempt to achieve business goals through getting involved in esports sponsorship since the esports market is a high-potential market. According to Newzoo (2020), which is the leading provider of esports analytics, global esports revenues will generate \$1.1 billion in 2020 and the total esports audience will reach 495 million people in the same year. These amounts are higher than traditional sports such as the NBA and MLB (Green Man Gaming, 2020). Besides, the majority of esports revenue came from sponsorship deals, which

will grow 17.2% year on year (Newzoo, 2020). Despite its popularity, there has been little research conducted on esports sponsorship, not to mention its effectiveness. Although nowadays esports is increasingly receiving industry recognition as a sport, there is still a continuing debate as to whether esports can be perceived as a sport or not (Jonasson & Thiborg, 2010). Therefore, it requires an empirical investigation on the feasibility of adapting theories and models from sports sponsorship effectiveness to esports. Furthermore, as suggested by researchers, there is a need for theorizing about esports to serve as a foundation for conducting experimental studies (Cunningham, Fairley, Ferkins, Kerwin, Lock, Shaw & Wicker, 2018; Reitman, Anderson-Coto, Wu, Lee & Steinkuehler, 2020). Considering the remarkable growth of esports sponsorship, pending issue of esports' classification and lack of firm theoretical foundation related to esports sponsorship, there are calls for academic research to explore and develop a conceptual framework of sponsorship effectiveness specifically for the esports industry.

Regarding the examination of sponsorship effects, the focus of many studies has been on evaluating its effectiveness on brand awareness (Donlan, 2014; Walliser, 2003). However, some scholars suggested that compared with brand awareness, enhancing brand association through sponsorship is a more important goal as well as an essential task for corporations (Grohs & Reisinger, 2005; Ko, Kim, Claussen, & Kim, 2008) given that establishing brand association is considered as a basis to build a strong brand and stand out from competitors (Aaker, 1996; Keller, 2001). In addition, other research has indicated that purchase intent is a crucial indicator of sponsorship effectiveness (Choi, Tsuji, Hutchinson, & Bouchet, 2011). Normally, the ultimate goal for corporations to pursue in the sponsorship is future sales (The Nielson Company, 2019), which can be impacted by purchase intent (Howard & Crompton, 1995). Thus, the present study chose brand association and purchase intent as dependent variables to discuss the sponsorship effectiveness of esports.

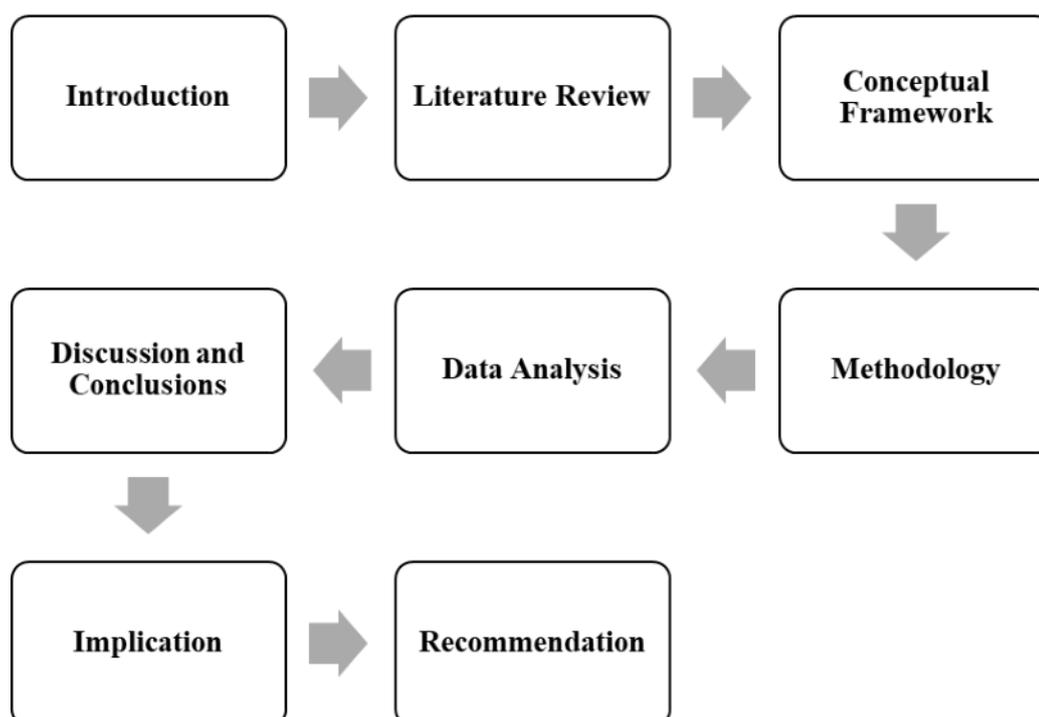
While most of academic research on investigating sponsorship effects has been undertaken on Western countries, very limited research has been undertaken in Asia (Liu, Kim, Choi, Kim, & Peng, 2015). Among all countries, Taiwan was ranked fifth in worldwide Twitch views (Verizon Media, 2017). Therefore, the current study focused on Taiwan market.

## **1.2 Purpose of Research**

The aim of this study is threefold: 1) understand how esports sponsorship impacts consumers' association toward the sponsor's brand and consumers' intent to purchase the sponsor's product. Specifically, to understand the influence of various consumer's attitudes (Attitudes toward the sponsor; Attitudes toward the event [sponsee]; Attitudes toward the sponsorship; Attitudes toward the sponsored activity) on esports sponsorship effectiveness in terms of brand association and purchase intent. 2) to suggest practical implications facilitating esports sponsors to develop effective sponsorship strategy. 3) to develop a preliminary conceptual model of esports sponsorship effectiveness and provide insight into this topic, which serves as a foundation of future research.

## **1.3 Structure of Research**

To achieve these objectives, this paper is structured as below. The first chapter provides background information of research and the problem statement. This is followed by a review of the literature covering theories and definitions of sponsorship as well as esports. The third section describes the conceptual framework and hypotheses developed in this study. After this, research methodology is presented, with detail of the measures, participants and procedures used. The fifth section presents the results of various analyses. Finally, results are discussed, conclusions are drawn, and suggestions are provided for future researches.



**Figure 1-1** Structure of Research (source: own creation)

## 2 Literature Review

### 2.1 Overview of Sponsorship

Sponsorship is defined by Meenaghan (1983, p.9) as “the provision of assistance either financial or in kind to an activity by a commercial organization for the purpose of achieving commercial objectives”, which has been widely used in academia. On the other hand, the definition constantly utilized in industry is from IEG (2017, p.1), who interpreted sponsorship as “cash or in-kind fee paid to a property ([a property rights holder] (typically in sports, arts, entertainment, or causes) in return for access to the exploitable commercial potential associated with that property”. No matter which one is chosen, the common ground is 1) an exchange of fee and rights between a sponsor and a sponsee; 2) with aim to achieve commercial objectives.

The emergence of sponsorship as a marketing communication tool was in the 1970s and it grew rapidly throughout the period of 1980-1990 (Grohs & Reisinger, 2014).

Over the last decade, the investment of sponsorship has increased steadily at about 4-5% annually (IEG, 2018). According to IEG (2017), companies allocate nearly 19 percent of their overall marketing budgets to sponsorship. The possible forces that drive sponsorship growth include (Meenaghan, 1991): 1) rising cost of advertising media. 2) ability to achieve various marketing objectives. 3) inefficiencies of traditional media 4) more media coverage of sponsored event, for example, both television and Internet broadcast sports and cultural activities, which thus provide opportunities for broadcast sponsorship. Additionally, IEG (2017) also pointed out that nowadays, due to the fragmentation of the mass market and mass media, reaching target audiences and creating two-way dialog with the public are the reasons why the sponsorship is valued highly by companies.

The prime goals for companies to sponsor an event include creating brand awareness, increasing brand loyalty, reinforcing brand image, stimulating sales, and entertaining clients. (IEG, 2018). On top of that, another critical objective is to differentiate their brands or products from the competition (Cornwell & Steinard, 2001; Deitz, Myers, & Stafford, 2012), which is the core element of brand association (Aaker, 1996). Meenaghan (1991) even classified all objectives into two groups, one is *corporate objectives*, and another is *brand objectives*. In effect, sponsorship not only helps companies to dialog with end-users, but also provides a platform which enables companies to communicate and connect with wide range of audiences as below (Meenaghan et al., 2003):

1) *Internal employee public*

Sponsorship plays a role in foresting corporate culture, and in enhancing corporate image among employees. It articulates the values of the organization to its staff, improving sense of shared enterprise and staff morale.

2) *Shareholders*

Involvement in high-profile sponsorship can strengthen brand profile and create value for shareholders. It allows companies to build goodwill among decision-makers.

### 3) *Distributors/Suppliers*

Sponsorship is viewed as an opportunity to showcase branding capability to distributors and suppliers. Additionally, it can also create and maintain business relationships with them since it allows companies to offer corporate hospitality to these decision-makers as their guests through event sponsorship.

### 4) *Government/Regulators*

Sponsoring particular events and activities can facilitate connections for the company with influencers in government and regulators.

Compared with other forms of marketing communication including advertising, public relations and promotions, sponsorship has been enjoying a remarkable growth (Meenaghan et al., 2013). Numerous studies (Harvey, 2001; McDonald, 1991; Meenaghan, 2001) have focused on the similarity and difference between sponsorship and advertising. The study of Harvey (2001) pointed out that both sponsorship and advertising have recall and persuasion effect. Meenaghan (2001) observed that the main difference is in a consumer's perception. According to the same scholar and McDonald (1991), sponsorship can generate a kind of goodwill and transfer it to consumers, while advertising is normally perceived with skepticism and suspicion. This is because sponsorship is viewed as indirect communication and is advantageous to the society instead of selling product directly to consumers, which results in the high acceptance by consumers. In contrast, advertising is more direct communication, promoting product straightly, which easily triggers the defense mechanism of consumers. The summary of above distinctions is listed in Table 2-1.

**Table 2-1** Sponsorship versus Advertising (Meenaghan, 2001)

Comparative Factors	Sponsorship	Advertising
Goodwill	Beneficial	Selfish
Focus	Indirect/ Subtle	Direct/Forceful
Intent to Persuade	Disguised	Overt
Defense Mechanisms	Low State of Alertness	High State of Alertness

All in all, sponsorship should be seen as a component of marketing communications and must be integrated into the whole marketing plan in order to achieve corporate

objectives ensuring the best performance in a cost cost-effective manner (Meenaghan, 1991).

## 2.2 Sponsorship Effectiveness

Based on the study presented by Cornwell and Maignan (1998), the three main streams of sponsorship research are concentrated, respectively, on definitions of sponsorship, corporate motivations as well as objectives, and measurement of sponsorship effects. As Macdonald (1991) suggested in his article, companies should plan and evaluate the sponsorship investment carefully like other marketing spending. Previous studies showed that the methods to measure sponsorship effectiveness can be summarized in threefold:

### 1) *Exposure/Coverage (Cornwell, 2019; Speed & Tompson, 2000)*

This is the most common technique adopted by companies. It is the quantity of media exposure the sponsors achieve through event, such as online/offline brand mentioning, logo exposure etc. Companies tend to calculate the cost of sponsorship to gain equivalent exposure. This method is the way generally used in traditional advertising. However, sponsorship is not advertising given that the former is indirectly affecting consumer perceptions of the brand, while the latter is associated with directly affecting consumer perception (Mcdaniel, 1999). Thus, it is probably neither sufficient nor efficient when it comes to evaluate the sponsorship effectiveness (Cornwell, 2019).

### 2) *Sales/Market share (Meenaghan, 1991; Koronios, Dimitropoulos, Travlos, Douvis & Ratten, 2020)*

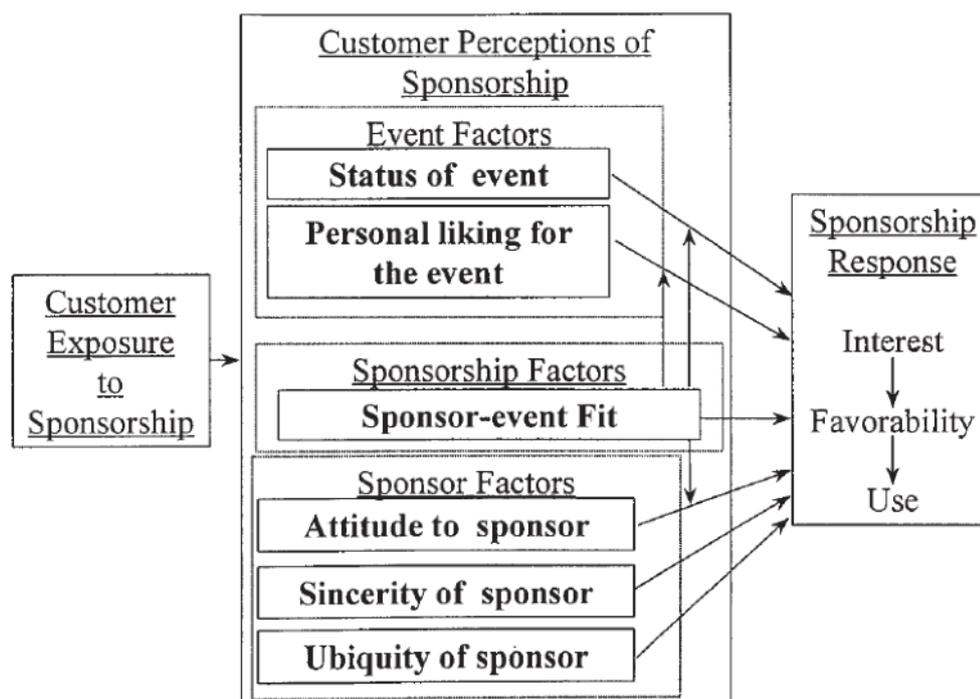
It refers to the calculation of the volume of sales increased or market share gained. Although sales number is one of the essential goals in a sponsorship project for sponsors, it is not the sole factor of sponsorship effectiveness. Hence, Koronios et al. (2020) pointed out that this method doesn't take advantage of whole benefits that can be achieved through sponsorship activities.

### 3) *Consumer related/Communication (Meenaghan, 1991; Macdonald 1991)*

It is measured by consumers' response, preference or attitude toward the sponsorship, normally via consumer survey. It can be used to evaluate multiple benefits such as brand recall, brand loyalty, brand image etc.

In sum, as Theofilou, Ventoura-Neokosmidi and Neokosmidis (2014) indicated in their study, there is no specific right or good way to measure the outcome of sponsorship. Some researches adopt similar approach as the third method, further investigating the factors that affect sponsorship effectiveness (Kim, Lee, Magnusen & Kim, 2015). One of the notable studies is that of Speed and Thompson (2000), which has been widely used in related work regarding sports sponsorship.

The study of Speed and Thompson (2000) applied classical conditioning theory, which was often used in advertising research, to sponsorship proposing a framework (Figure 2-1) to evaluate the impact of consumers' attitudes toward a sports event. Based on their study, a consumer's response to a sports sponsorship is affected by 1) attitudes toward the event, 2) attitudes toward the sponsor, 3) perception of congruence between sponsor and event; and the consumer's response contains the consumer's attention to the sponsor (interest), favorability toward the sponsor (favor), and their willingness to consider the sponsor's product (use).



**Figure 2-1** Conceptual Framework of Speed and Thompson (2000)

### 2.3 Overview of Esports

The concept of esports can be dated back to the early 1980s, with the first video game tournament "Space Invaders Championships" held in 1972, and it has been growing in popularity in the 21st century (Borowy, 2013). Common esports game genres include *multiplayer online battle arena (MOBA)* (e.g., Dota 2, League of Legends), *first-person shooter (FPS)* (e.g., CS: GO, Overwatch), *real-time strategy (RTS)* (e.g., StarCraft), and the rise of new genre Battle Royale (e.g., PUBG, Fortnite).

Esports (electronic sports) is defined as "organized video game competitions" by Jenny, Manning, Keiper and Olrich (2017, p.4); and as "the activity of playing computer games against other people on the internet, often for money, and often watched by other people using the internet, sometimes at special organized events" by Cambridge Dictionary (2020). Regardless of which interpretation is favored, both lead to the idea that esports is not just about "playing online video games", but more about a "competition". In short, esports can be described as "competitive gaming" (Reitman et al., 2020).

The debate as to whether esports can be categorized as a sport remains unsolved in the academia and industry. Some researchers consider esports as a sport; for instance, both Wagner (2006) and Hamari & Sjöblom (2017) described esports as a form of sports. In addition, according to an interview from CES (2019), many industry leaders, such as the global marketing director of Dell and the CIO of the National Football League, believe esports is a sport. On the contrary, some scholars opposed to previous standpoint for following reasons: firstly, the major argument against esports as a sport is its lack of physicality (Hallmann & Giel, 2018; Reitman et al., 2020). In fact, it is one of the reasons why the German Olympics Sports Confederation (DOSB) refuses to recognize esports as a sport (Deutsche Welle, 2019). Despite that, others (Funk, Pizzo & Baker, 2018) believed that esports also require a fine physical skill, e.g., APM (number of actions that a player can perform in a minute with a mouse or keyboard). Secondly, Holden, Kaburakis and Rodenberg

(2017) stated that esports fans usually play the same game that the professionals are playing, whereas most of sports fans just consume sports through broadcast platform without actively engaging in practicing and playing a sport. The third reason is the lack of unifying governing institutions (Jenny et al., 2017), which resulted in the exclusion of esports from the Asian Games 2022 by the Olympic Council of Asia (OCA) (Careem, 2019). Although esports is not yet to be officially recognized as a sport, today's youth tend to associate esports with sports, which can be interpreted as a sign of future growth of perception of esports as a sport (García & Murillo, 2020).

In sum, as Hallmann et al. (2018, p.4) claimed in his study, "esports is close to but not yet equivalent to sports". Regardless of the classification, esports have become one of the central topics of analysis in the sports marketing and management literature.

### **2.3 Esports Sponsorship**

Sponsorship plays an important role in the esports industry. According to Newzoo (2020), global esports market revenue will reach 1.1 billion in 2020. Of that amount, \$822.4 million will be generated from media rights and sponsorship. The same report revealed that sponsorship has risen 17.2% year on year and is even expected to enjoy a further growth toward 2023.

The major drivers that attract brands to sponsor esports events and tournaments include the following:

#### *1) High viewership numbers (Newzoo, 2019)*

Popular esports tournaments can attract millions of viewers. Take League of Legends World Championship 2019 as an example, there were more than 100 million viewers, of which 44 million were peak concurrent viewers (Webb, 2019). Thus, brands can reach their target audience, that is, youth public and gamers via sponsorship precisely.

#### *2) Young and engaged audience (Finch, O'Reilly, Abeza, Clark & Legg, 2019)*

According to Newzoo (2017b), most of the global audience of esports is young with half of them aged between 21-35, who is difficult to be reached via traditional

methods. Moreover, esports audiences are highly engaged and loyal in their community (Long, Drabicky, & Rhodes, 2018), which means if the sponsorship goes successfully, sponsors can truly immerse their brands into the target audience's everyday lifestyle.

Brands can join in esports sponsorship through the following ways (The Nielson Company, 2019):

*1) Sponsoring league/event/tournaments*

It varies from local to global and from amateur to professional, which is operated by game publishers or third-party operators who are granted a license. Common sponsorship opportunities offered by a league include branded content embedded in livestream, digital overlays during the broadcast, in-venue signage, branded content in social media, etc.

*2) Sponsoring teams/players*

The main sponsorship deal with esports teams is on-jersey sponsorship, which also covers exposures on individual player's livestream, media interview, social media channels, and via fans who wears purchased apparel. One of the advantages of sponsoring teams is reaching and connecting with their fans.

*3) Sponsoring streamers/ streaming platform*

Due to the fact that online streaming dominates the distribution method for esports, sponsoring streamers or a streaming platform can facilitate a brand's reach to target audiences. Moreover, it also helps brands to engage with gamers since streamers often interact with fans through broadcasting themselves playing video games live on Twitch or YouTube. For instance, in 2018, Uber Eats sponsored a popular Twitch streamer, Ninja, to launch an interesting campaign (For every kill on Fortnite, his fans would get 1% off on their Uber Eats orders). Another example is KFC, who sponsored streamer Dr. Lupo in 2018 to advertise its chicken wings by encouraging followers to type "winner winner" into the chat box when Dr. Lupo was playing PlayerUnknown's Battlegrounds. Normally, brands can sponsor streamers via product placement, sponsor mentions, social media exposure, and the most importantly,

branded content during broadcasting, which can be any form such as on-demand video content (The Nielson Company, 2019).

A typical event esports sponsorship deal consists of product placement, logo placement, event coverage and game-specific IP rights (Newzoo, 2020). Not only endemic sponsors but also non-endemic sponsors are rising year over year, the former made up 53% of total esports sponsorship deals and the latter accounts for nearly the same proportion (47%) in 2019 (IEG, 2019). Endemic sponsors refer to the brands that create products or services which are directly used in the esports activities, such as Razer or HyperX; non-endemic sponsors are brands whose products or services that are not indispensable in the production or execution of esports activities, such as Vodafone or Mastercard..

While considerable attention has been drawn to the esports sponsorship in sport, event, and entertainment industries in recent years, there is very limited study on this topic in the literature. As Reitman et al. (2020) noted in their review of 150 influential studies on esports, most of articles are centered on the issue as follows: 1) definition and ecosystem of esports. 2) motivation of esports spectators. 3) performance/expertise of team and players. One of few studies that address the effect of sport sponsorship is the work of Elasri-Ejjaberi, Rodríguez-Rodríguez & Aparicio-Chueca (2020), who conducted a questionnaire distributed to youth in Spain to examine the effect of esports league sponsorship on brands. Their study provides an initial investigation of esports sponsorship effectiveness for future work to further explore and analyze.

In summary, much of esports research to date is at the phase of observation instead of intervention, which commonly lack of a theoretical basis, given that esports is still a relative novelty of the industry. (Cunningham et al., 2018; Reitman et al., 2020). Researchers also (Cunningham et al., 2018; Reitman et al., 2020) raised the need for firmer theoretical studies and empirical studies in esports field. Hence, the current study presents a conceptual framework to examine the relationship between variables and the effects of esports sponsorship with aim to provide relevant information for scholars and marketing practitioner.

### **3 Conceptual Framework & Hypothesis**

#### **3.1 Conceptual Model**

Within the extensive literature on sports sponsorship, comparatively little research has focused on the esports sponsorship. Therefore, the conceptual model in this study has been developed on the basis of previous theories and frameworks of sports sponsorship, specifically, adopted from Speed and Thompson (2000), which is more generic but is considered as one of the most important models among the studies of sports sponsorship (Abreu Novais & Arcodia, 2013). Given the fact that there is limited literature examining sponsorship effectiveness in esports area, this study opts for a more general one as a starting point.

From the observation of literature over the past two decades (Abreu Novais et al., 2013; Grohs, 2016; Grohs & Reisinger, 2005; Kim et al., 2015), the dependent variables used to measure sponsorship effectiveness can be summarized into three constructs as follows:

- 1) Attitudes toward the sponsor.
- 2) Attitudes toward the event (Sponsee).
- 3) Attitudes toward the sponsorship.

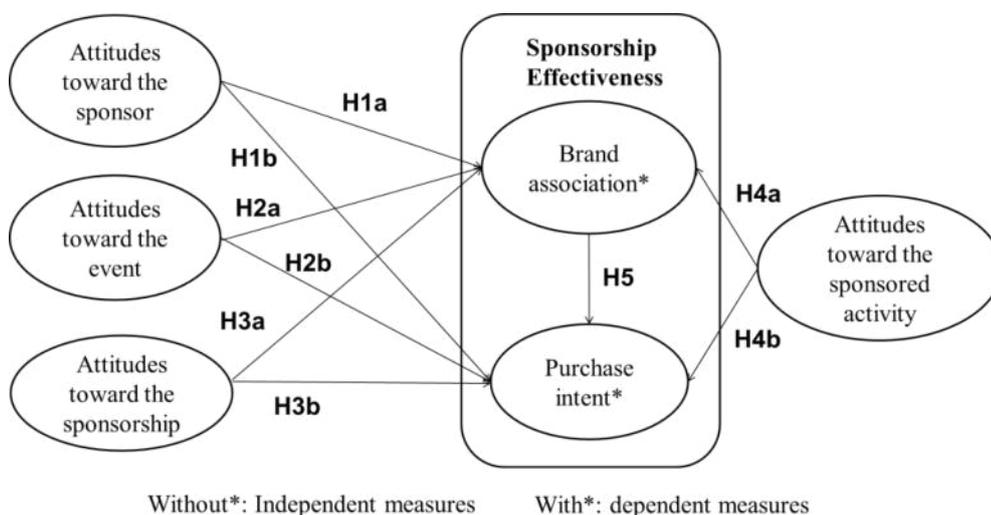
This category can also be seen in the model of Speed and Thompson (2000). To make the model more complete, Speed and Thompson (2000) 's scale are amended in the current study, which will be illustrated individually in chapter 4. One of the obvious modifications is including additional factor "Involvement" and classifies it in to new category "Attitude toward the sponsored activity" since it is an important measure and is suggested to be examined in the evaluation of sponsorship effectiveness (Grohs & Reisinger, 2014; Kim et al., 2015).

With regard to the dependent variables, the original one, namely Favorability, Interest, and Use, are converted into "brand association" and "purchase intent". The former is considered as a crucial indicator of sponsorship effectiveness from sponsors' perspective (Choi et al., 2011); the latter is seen as the basis for purchasing

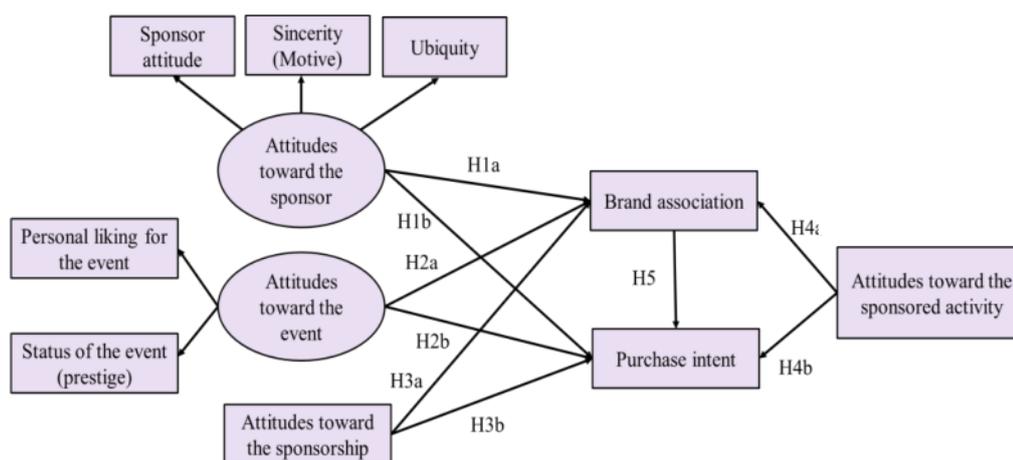
decision (Aaker, 1991). The proposed conceptual framework and the structural model for hypotheses are illustrated in figure 3-1 and figure 3-2 respectively as below.

### 3.2 Variables Description & Hypothesis

This section illustrates the independent variables in each construct and dependent variables including definition and the overview of related studies, then proposing hypothesis



**Figure 3-1** Proposed Conceptual Framework for this Study (source: own creation)



**Figure 3-2** Structural Model for Hypotheses (source: own creation)

#### 3.2.1 Independent Measures

##### A. Attitudes toward the sponsor

“Attitudes toward the sponsor” stands for consumers’ overall evaluation toward the sponsor, that is often associated with purchase intent in sponsorship studies (Koo & Lee, 2018), perhaps because attitude is considered as an antecedent of behavior (Keller, 1993). Although a recent study conducted by Papadimitriou, Kaplanidou, & Papacharalampous (2016) revealed that brand attitude cannot be translated to purchase intentions, most prior studies agreed on the positive relationship between “attitude toward the sponsor” and favorable response in terms of affective as well as behavioral (Alonso-Dos-Santos, Vveinhardt, Calabuig-Moreno & Montoro-Ríos, 2016; Ko et al., 2008; Speed & Thompson, 2000; Zaharia, Biscaia, Gray & Stotlar, 2016). Thus, the first hypothesis was developed:

*H1a: Consumers who have a positive attitude toward the sponsor are more likely to enhance their brand association of a sponsor.*

*H1b: Consumers who have a positive attitude toward the sponsor are more likely to express positive purchase intents toward sponsor’s products.*

According to Speed and Thompson (2000), “attitudes toward the sponsor” is composed of three variables, namely *sponsor attitude*, *perceived ubiquity of the sponsor*, and *perceived sincerity of the sponsor*. Attitude have different components including affect and cognition, the former refers to an individual’s feeling or emotions linked to an object while the latter refers to an individual’s thoughts and beliefs toward the object (Breckler, 1984). Sponsor attitude is viewed as an affective component of attitudes toward the sponsor and the remaining two variables belong to cognitive component.

#### 1) *Sponsor attitude*

Sponsor attitude refers to a consumer's attitude toward the sponsor's image (Speed and Thompson, 2000), normally including how favorably and positively a consumer perceives of a brand. The same researcher suggested that consumers who have a positive attitude toward the sponsor’s image are more likely to give favorable response toward this sponsorship. Besides, the research of Biscaia, Correia, Rosado, Ross, & Maroco (2013) revealed that consumers who express positive attitudes toward the sponsor are more likely to purchase that brand. Therefore, it is further hypothesized that:

*H1-1a: Sponsor attitude is positively related to the enhancement of brand association.*

*H1-1b: Sponsor attitude is positively related to the purchase intent.*

## 2) *Sincerity (Motive)*

Sincerity, which is also called “motive” in some studies (Dean, 2002; Deitz, Myers, & Stafford, 2012), is generally understood to mean the reasons why sponsors engage in sponsorship from a consumer’s perspective (Kim et al., 2015). Numerous studies (Kim et al., 2015; Olson, 2010; Speed & Thompson, 2000) stress that this variable is one of the crucial indicators of sponsorship effectiveness. If a sponsor is perceived sincere and motivated by goodwill rather than commercial considerations (e.g., sales and profit), it drives better sponsorship outcomes, such as brand image creation, preferences increase, purchase behavior formation, etc. (Alexandris, Tsaousi & James, 2007; Speed & Thompson, 2000). Thus, it was proposed:

*H1-2a: Sincerity (Motive) is positively related to the enhancement of brand association.*

*H1-2b: Sincerity (Motive) is positively related to the purchase intent.*

## 3) *Ubiquity*

Ubiquity refers to how sponsors engage in sponsorship in terms of frequency and selectivity from consumer’s perception (Speed & Thompson, 2000). If companies sponsor many sponsorships simultaneously, consumers may believe that sponsors are not so committed to each sponsorship and also are less credible. Therefore, according to Speed and Thompson (2000), ubiquity is negatively associated with sponsorship response. In other words, the higher perceived ubiquity of sponsors, the lesser favorable response (interest and use) of consumers. Nevertheless, one recent study (Ko, Chang, Park, & Herbst, 2017) argued that this statement is not wholly true because consumers perhaps consider sponsors with high ubiquity as an indicator of robust fiscal capacity and high involvement in sponsor activities, which in turn led to positive response toward the sponsor. In any case, this requires a further investigation and verification. Thus, it was hypothesized:

*H1-3a: Ubiquity is positively related to the enhancement of brand association.*

*H1-3b: Ubiquity is positively related to the purchase intent.*

## **B. Attitudes toward the event (sponsee)**

“Attitudes toward the event (sponsee)” stands for the overall evaluation toward the event and it is formed by two variables: *personal liking for the event* and *status of the event (prestige)* (Speed & Thompson, 2000). The former one is more affective expressing inner emotions while the latter is more cognitive expressing thoughts. Scholars generally believed that different attitudes that consumers have toward the event affect effectiveness of sponsorship and it is a crucial factor to examine the sponsorship outcome (Alexandris et al., 2007; Lee, Sandler, & Shani, 1997; Speed and Thompson, 2000). Abreu Novais and Arcodia (2013) also pointed out that consumers who have positive attitudes toward an event tend to develop favorable perceptions about the sponsors, which may result in increase of purchase intention. Thus, the following propositions were suggested:

*H2a: Consumers who have a positive attitude toward the event are more likely to enhance their brand association of a sponsor.*

*H2b: Consumers who have a positive attitude toward the event are more likely to express positive purchase intent toward sponsor’s products.*

### 1) *Personal liking for the event*

This variable refers to the attitudes in specific inner emotions toward the event such as interest, favorability and attraction (Speed & Thompson, 2000). As noted in their study investigating effects of sport sponsorship, the perception of the event may have an impact on brand image as well as purchase intent. In addition, other researchers also indicated that consumers who have a more positive attitude toward an event are more likely to form positive attitudes toward the sponsor (Alexandris et al., 2007; Abreu Novais & Arcodia, 2013). Hence, it was proposed:

*H2-1a: Personal liking for the event is positively related to the enhancement of brand association.*

*H2-1b: Personal liking for the event is positively related to the purchase intent.*

2) *Status of the event (prestige)*

“Status of the event”, which is also known as prestige in some research work (Cornwell & Coote, 2005; Gwinner & Swanson, 2003), is defined as how the outside world view and evaluate an event from consumer’s perspective (Kim et al, 2015). Speed and Thompson (2000) believed that the higher status of an event such as Olympics brings sponsors multiple benefits (e.g. consumers pay more attention to sponsors’ names and advertising; consumers have better attitude toward the sponsors except a consumer’s willingness to purchase a sponsor’s product. On the contrary, Cornwell and Coote (2005) argued that prestige does have positive influence on purchase intent. Besides, Smith (2004) stated that if the event is smaller or more local, a sponsor will be viewed as more sincere, which may also lead to positive sponsorship outcome. In short, there is no consensus regarding the relationship between prestige, brand image and purchase intent. Therefore, we hypothesized the following:

*H2-2a: Status of the event (prestige) is positively related to the enhancement of brand association.*

*H2-2b: Status of the event (prestige) is positively related to the purchase intent.*

### **C. Attitudes toward the sponsorship**

1) *Sponsor-event fit*

In present study, “Attitudes toward the sponsorship” only consists of one variable (sponsor-event fit) due to the following reasons: firstly, sponsor-event fit is highly associated with consumers’ attitudes toward the sponsorship given that low fit makes people feel uncertain and confused about sponsor’s positioning (Becker-Olsen & Simmons, 2002); secondly, numerous studies (Abreus Novais & Arcodia, 2013; Kim et al., 2015; Martensen, Grønholdt, Bendtsen, & Jensen, 2007) stressed that sponsor-event fit is the most crucial and common antecedent among all factors to sponsorship effectiveness, perhaps it is because of its strong correlation with both attitudes toward the event (Martensen et al., 2007; Shin, Lee, & Perdue, 2018) and attitudes toward the sponsor (Dees, Bennett, & Ferreira, 2010; Fleck & Quester,

2007); lastly, other variables in “attitudes toward the sponsorship” such as *personal liking on sponsorship* is not prominent in previous studies (Abreus Novais & Arcodia, 2013). Hence, this current thesis selected purely *sponsor-event fit* to represent this construct.

“Sponsor-event fit” is also known as relevance (MaDonald, 1991; Rodgers, 2003), congruence (Fleck & Quester, 2007; Meenghan, 2001), Match-up (McDaniel, 1999) and Similarity (Clark, Cornwell, & Pruitt, 2009; Gwinner, 1997). It is called “fit” in present thesis as suggested by the majority of scholars (Becker-Olsen & Simmons, 2002; Grohs & Reisinger, 2014; Speed & Thompson, 2000; Smith, 2014). Many academic researchers have attempted to interpret sponsor-event fit with their own approaches. McDonald (1991) divided it into direct (product attributes) and indirect relevance (symbolic), that is quite similar as other scholars’ interpretation, talking about functional (product attributes) and imagery (symbolic). One example of direct relevance is the pairing of Intel and League of Legends tournament because Intel CPU is embedded in computers used in the tournament, while Coca-Cola and League of Legends tournament tends to be indirect relevance since Coca-Cola is not necessary used during the playing of esports tournament. On the other hand, Becker-Olsen & Simmons (2002) believed that there are two types of fit, one is native fit which is perceived naturally fitting well together; the other is created fit which is needed to be created on purpose by sponsors via communications or program detail. Regardless of definition, the common grounds of fit are the good connection between the sponsor and the event from consumers’ perspective. Therefore, sponsor-event fit is defined in this study as attitude towards the pairing of sponsor/event and degree to which the pairing is perceived as well matched. (Fleck & Quester, 2007; Speed & Thompson, 2000).

Previous research works pointed out that sponsor-event fit can bring sponsors positive consumers’ response as well as brand effects such as brand recall (Rodgers, 2003), image transfer (Gwinner, Larson, & Swanson, 2009; Grohs, 2016), purchase intent (Gwinner et al., 2009; Rodgers, 2003; McDaniel, 1999; Dees et al., 2010), and positive attitude toward sponsor’s product (Close, Lacey & Cornwell, 2015). They commonly believed that if there is a good fit, it can better transfer the association from an event to a brand and increase brand recognition as well as

purchase consideration. However, Smith (2004) stated that even though the fit is poor, it still transfers the associations under this circumstance: when companies are seeking to reposition their brands or launch new brands, they need to sponsor an event (better to be perceived high quality) which has the image and association they ideally want. Fleck and Quester (2007) also indicated that a certain degree of incongruence may result in more favorable attitudes from consumers as long the pairing is perceived as interesting and positive. Perhaps it is because while consumers engage in depth to process the association, the hidden meaning will make them feel entertained and even surprised. For instance, in recent years, KFC has sponsored various PUBG (PlayerUnknown's Battlegrounds) tournaments in Asia. This pairing apparently doesn't match well since KFC barely has connection with esports; but consumers may notice an interesting link between KFC and PUBG, that is, when players win a match, the game shows "Winner Winner Chicken Dinner". Aside from the abovementioned arguments, Maanda, Abratt, & Mingione (2020) even revealed in their work that the sponsor-event fit has a negative influence on brand image. They explained this result may be due to contextual factor.

Based on above discussion, the hypothesis was developed as follows:

*H3a: Sponsor-event fit is positively related to the enhancement of brand association*

*H3b: Sponsor-event fit is positively related to the purchase intent.*

#### **D. Attitudes toward the sponsored activity**

##### 1) *Activity Involvement*

Activity involvement refers to "a person's perceived relevance of the object based on inherent needs, values, and interests" (Zaichkowsky, 1985). In brief, it means the level of interest and engagement of an individual toward the sponsored activity.

"Attitudes toward the sponsored activity" is a new construct extended from the variable *activity involvement*, that is considered as an important factor of overall effectiveness of sports sponsorship (Grohs & Reisinger, 2014; Meenaghan, 2001). According to Meenaghan (2001), event sponsorship has different types of audiences ranging from uninvolved to highly involved audiences. The way he segmented those

audiences was based on the level of passion, loyalty and elation which fans may have with their preferred teams or sports. Alonso-Dos-Santos et al. (2016) mentioned that the level of activity involvement is positively related to both attitudes toward the sponsor and attitudes toward the event. Moreover, this variable can bring sponsors multiple positive sponsorship outcomes, including enhancing brand awareness (Ko et al., 2008; Meenaghan, 2001; Olson, 2010), image transfer (Grohs & Reisinger, 2014; Ko et al., 2008; Meenaghan, 2001), and purchase intent (Alexandris et al., 2007; Koo & Lee, 2019; Meenaghan, 2001).

According to Meenaghan (2001), consumers who have higher levels of activity involvement are 1) more knowledgeable about specific activity; 2) able to identify the association between sponsor and event; 3) able to recognize sponsors in sponsorship. In addition, Alonso-Dos-Santos et al. (2016) indicated that consumers who have higher levels of activity involvement tend to be opinion leaders and buyers who have better reaction to promotional messages. Neijens, Smit, & Moorman, (2009) further explained that more involved consumers watch more matches and advertising, besides, they are also more open to promotional activities since they are linked to the object of their involvement. The above-mentioned characteristics of highly involved consumers enable sponsors to increase brand awareness, build brand association and create purchase intent through sponsorship. Hence, it is hypothesized:

*H4a: Consumers who have a higher levels of sponsored activity involvement are more likely to enhance their brand association of a sponsor.*

*H4b: Consumers who have a higher levels of sponsored activity involvement are more likely to express positive purchase intent toward sponsor's products.*

### **3.2.2 Dependent Measures**

#### **A. Brand Association**

Brand association is defined as anything linked in memory to a brand which makes it different (Aaker, 1991). Scholars have proposed different views concerning components of brand associations. The first attempt to conceptualize brand

association is that of Keller (1998), who categorized brand association into three genres (Figure 3-3):

1) *Attributes*

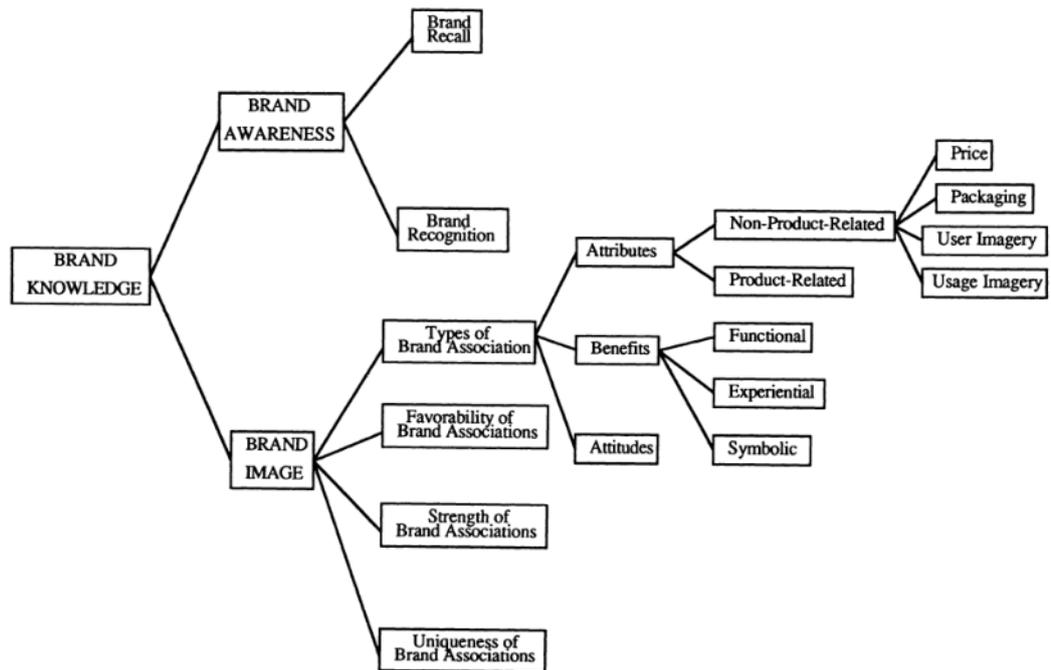
What consumers think about a product or service during the process of purchase. The attributes are further classified into two small categories: *non-product-related* and *product-related*. Common examples of non-product-related attributes are price, packaging, user imagery (e.g., what kind of person uses the product or service), and usage imagery (e.g., where and under what kind of situations the product or service is used). Examples of product-related attributes are a product or a service's features and composition.

2) *Benefits*

What consumers think a product or service can do for them, that is, extra values on top of product attributes. The benefits are further grouped into three categories: *functional benefits*, *experiential benefits*, and *symbolic benefits*. Functional and experiential benefits are normally benefits brought from product related attributes, the former satisfies physiological and safety needs of consumers, while the latter fulfils experiential and cognitive needs. On the other hand, symbolic benefits are benefit linked to non-product related attributes, which satisfy human needs such as self-esteem.

3) *Brand attitudes*

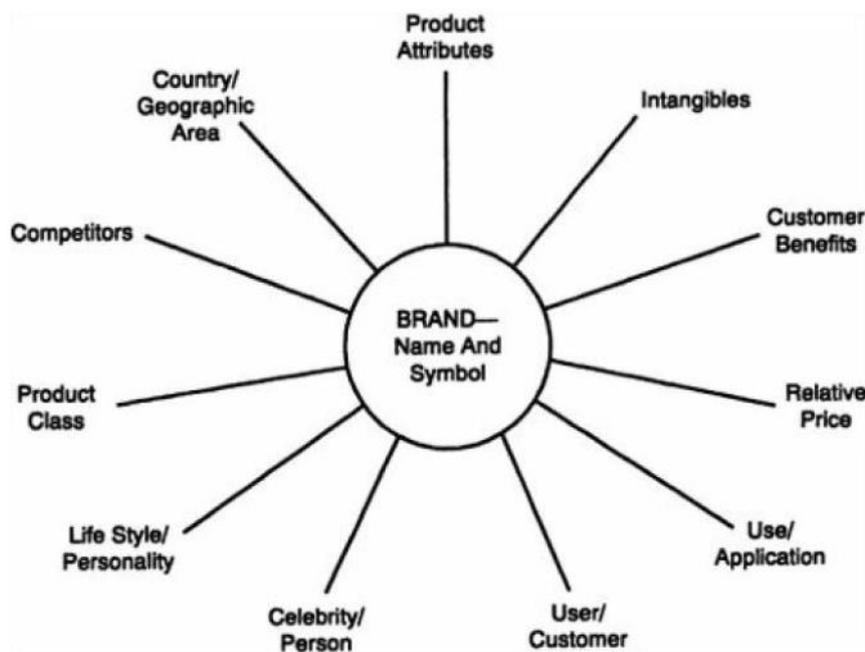
Overall evaluation of a brand. Brand attitudes are consumers' beliefs toward the product or service, which can be linked to the first and second types of associations.



**Figure 3-3** Dimensions of Brand Knowledge Depicting Brand Associations (Keller, 1998)

Another scholar Aaker (1991), who is an expert in brand building, proposed a different categorization of brand associations (Figure 3-4). In his classification, there are eleven genres of associations: *product attributes*, *intangibles*, *relative price*, *customer benefits*, *celebrity/person*, *use/application*, *user/customer*, *product class*, *lifestyle/personality*, *competitors*, and *country/geographic area*. Some of them shared the same concept as in Keller's (1993) version. Among all genres of associations, Aaker (1991) stressed the importance of product attributes and customer benefits.

In short, brand association is a mental picture of a brand including product or service attributes and symbolic meaning in consumer's mind.



**Figure 3-4** Brand Associations (Aaker, 1991)

Brand association, which makes up brand image, can be formed by a variety of ways such as product usage, word-of-mouth, advertising, other sources of information offered by company, and link with other entities (Keller, 2001). The last source is exactly the case of sponsorship. In fact, each sponsored property has its own personality and value, that can be transmitted from the event to the sponsor. For example, Olympic Games represents the highest summit of sporting achievement, so consequently the sponsors' product may be associated with high performance. Take ESL Pro League and Logitech as another example, the gaming mice and keyboards of Logitech might be associated as intuitive and superior through sponsoring ESL Pro League (Counter-Strike: Global Offensive league).

Building or enhancing association from the sponsored property to the brand is an important goal as well as an essential task for brand managers to involve in sponsorship (Grohs & Reisinger, 2005; Kim et al., 2015) due to following reasons: 1) Brand association can help companies to differentiate their brands from competitors (Aaker, 1996); 2) Creating brand association is a necessary step to develop a strong brand (Keller, 2001). It is more effective to build association between the sponsored property to the brand than the product category to the brand (Cornwell & Maignan, 1998). To date, several empirical studies (e.g., Donlan, 2014; Maanda, Abratt, &

Mingione, 2020) have showed that sports sponsorship can build brand association. Besides, previous research work also revealed the positive relationship between sponsor-event fit and brand association (Grohs and Reisinger, 2005; Martensen et al., 2007).

With regard to the measurement of brand association, scholars proposed different approaches to evaluate the level of brand association in a consumer's mind.

Keller (1993) suggested three measures: 1) *favorability of brand associations*: how favorable and positive consumers feel toward the brand associations; 2) *strength of brand associations*: how deeply consumers process the information regarding brand associations in their memories. 3) *uniqueness of brand association*: are the brand associations perceived by consumers different than competitor's?

Aaker (1996) adopted different angles to measure associations, mainly exploring consumers' thoughts towards three perspectives 1) *the brand-as-product*: whether the brand provides unique values. 2) *the brand-as-person*: whether the brand has a personality and whether it is clear to know who will use this product/service. 3) *the brand-as-organization*: whether the organization of the brand is trustable and credible. The essence of three measures is differentiation.

In sum, the current study applied Aaker's scales, which has been widely used in brand equity researches, to measure brand association.

## **B. Purchase Intent**

Purchase intent is described as "perceived likelihood or subjective probability to purchase sponsor products" (Kim et al., 2015), that is, prior to actual purchase, consumers must have an intention to buy. Based on the report of The Nielson Company (2019), brands are expecting to engage more with fans and ultimately improve fans' likelihood to purchase their products through involvement in sponsorship. Thus, purchase intent is viewed as a vital indicator of the sponsorship effect on future sales (Howard & Crompton, 1995). Previous surveys (Meenghan, 2001; IEG, 2017) show that sport sponsorship has impact on purchase intent, for

instance, Olympic spectators expressed their willingness to purchase sponsors' products; and NASCAR (National Association for Stock Car Auto Racing) fans would choose the brand who is sponsor of NASCAR over that is not. Several studies (Alexandris et al., 2007; Dees et al., 2010; Koo et al., 2006) of sport sponsorship have also noted that consumers' attitudes including attitudes toward the event, toward the sponsor, and toward the sponsored activity often affect the purchase intent. Aside from the attitudes, another significant predictor of consumers' intention to buy sponsors' products is brand image (Ko et al., 2008). It is suggested that consumers who have more favorable brand image in their minds are more likely to purchase a sponsor's product. As discussed previously, brand image is composed of different types of brand associations, therefore, the hypothesis was developed:

*H5: Brand association is positively related to purchase intent.*

All hypotheses in this chapter were summarized as shown in table 3-1.

**Table 3-1** Summary of Hypotheses (source: own creation)

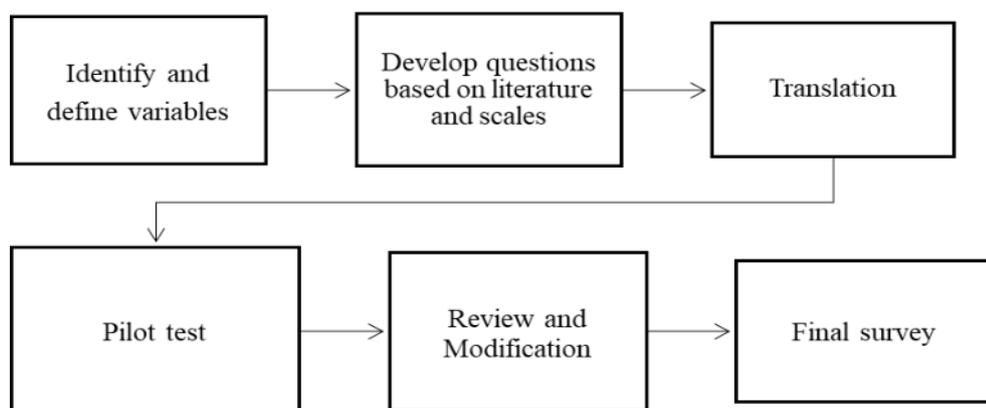
<b>H1a:</b> Consumers who have a positive attitude toward the sponsor are more likely to enhance their brand association of a sponsor.
<b>H1b:</b> Consumers who have a positive attitude toward the sponsor are more likely to express positive purchase intents toward sponsor's products.
<b>H1-1a:</b> Sponsor attitude is positively related to the enhancement of brand association.
<b>H1-1b:</b> Sponsor attitude is positively related to the purchase intent.
<b>H1-2a:</b> Sincerity (Motive) is positively related to the enhancement of brand association.
<b>H1-2b:</b> Sincerity (Motive) is positively related to the purchase intent.
<b>H1-3a:</b> Ubiquity is positively related to the enhancement of brand association.
<b>H1-3b:</b> Ubiquity is positively related to the purchase intent.
<b>H2a:</b> Consumers who have a positive attitude toward the event are more likely to enhance their brand association of a sponsor.
<b>H2b:</b> Consumers who have a positive attitude toward the event are more likely to express positive purchase intent toward sponsor's products.
<b>H2-1a:</b> Personal liking for the event is positively related to the

enhancement of brand association.
<b>H2-1b:</b> Personal liking for the event is positively related to the purchase intent.
<b>H2-2a:</b> Status of the event (prestige) is positively related to the enhancement of brand association.
<b>H2-2b:</b> Status of the event (prestige) is positively related to the purchase intent.
<b>H3a:</b> Sponsor-event fit is positively related to the enhancement of brand association.
<b>H3b:</b> Sponsor-event fit is positively related to the purchase intent.
<b>H4a:</b> Consumers who have a higher levels of sponsored activity involvement are more likely to enhance their brand association of a sponsor.
<b>H4b:</b> Consumers who have a higher levels of sponsored activity involvement are more likely to express positive purchase intent toward sponsor's products.
<b>H5:</b> Brand association is positively related to purchase intent.

## 4 Methodology

### 4.1 Research Method & Design

In order to test above hypotheses, a quantitative research approach was used. Specifically, a survey was conducted to examine the relationship between variables. In order to ensure that the measurement items are clear enough to comprehend and are relevant to the study, a pilot test was conducted. Minor modifications were made based on the result of pilot test. The procedure of survey design is presented as follows (Figure 4-1):



**Figure 4-1** Procedure of Survey Design (source: own creation)

The questionnaire consists of four main sections. In the beginning of the

questionnaire, participants are asked to select one of the esports sponsorship projects that they are familiar with and then answer questions based on it. There are totally 19 pairs of sponsor-sponsee (Appendix), derived from the list of the most popular esports tournaments and events in 2019 (Influencer Marketing Hub, 2020; Yakimenko, 2020). In addition, the first section concerns respondents' daily behavior in relation to esports. The second section is associated with participants' attitudes toward the sponsor, toward the event, toward the sponsorship, and toward the sponsored activity. The third section gathers respondents' thoughts regarding brand association and purchase intent about the sponsored event after they experienced it. The final section includes demographic information of participants.

#### 4.1.1 Measurement

All measurement items in the questionnaire were adapted from previous studies carried out in the sport sponsorship and brand equity contexts. Slight modifications were made in order to fit the context of the study. The wording of items is shown in Table 4-1 and Table 4-2. A 5-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree) was employed to measure all items for 9 variables (sponsor attitude; ubiquity; sincerity (motive); personal liking for the event; status of the event (prestige); sponsor-event fit; activity involvement; brand association; purchase intent). Basically, Speed and Thompson's (2000) scale was adapted to provide a measure of all constructs except for attitudes toward the sponsored activity and brand association. On top of that, some latest scales from other scholars were supplemented.

*Sponsor attitude* was measured using one (1) item from Speed and Thompson (2000) and two (2) items from Olson (2010). Both *ubiquity* and *sincerity* were measured borrowing three (3) items respectively from Speed and Thompson (2000). *Personal liking for the event* was measured with two (2) items from Martensen et al. (2007) and two (2) items from Speed and Thompson (2000). Two (2) items adopted from Cornwell and Coote's (2005) and another one (1) item from Speed and Thompson's (2000) were used to measure *status of the event*. *Sponsor-event fit* was measured by asking five (5) items from Speed and Thompson's (2000). Four (4) items adopted from Grohs and Reisinger (2014) were used to measure *activity involvement*.

Regarding *brand association*, it was measured using three (3) items adopted from Aaker (1996) and one (1) item from Yoo and Donthu (2001). Two (2) items used to measure *purchase intent* were modified from Cornwell and Coote's (2005). In addition, another one (1) item were borrowed from Speed and Thompson (2000).

**Table 4-1** Summary of Dependent Measures (source: own creation)

<b>Dependent Measures</b>	
<b>Brand association:</b> anything linked in memory to a brand which makes it different. (Aaker, 1991)	
BA_q1. This brand (sponsor) is different from competing brands. BA_q2. This brand (sponsor) has a personality. BA_q3. I have a clearer image of the type of person who would use the brand (sponsor). BA_q4. Some characteristics of the brand (sponsor)'s product come to my mind quickly	(Aaker, 1996; Yoo & Donthu, 2001)
<b>Purchase intent:</b> perceived likelihood or subjective probability to purchase sponsor products. (Kim et al., 2015)	
PI_q1. I will buy the product of this sponsor. PI_q2. When I have the need, the company (sponsor)'s product will be one of my considerations. PI_q3. When choosing brands, I choose those that sponsor the event.	(Cornwell & Coote, 2005; Speed & Thompson, 2000)

**Table 4-2** Summary of Independent Measures (source: own creation)

<b>Independent Measures</b>	
<b>1. Attitudes toward the sponsor</b>	
<b>Sponsor attitude:</b> Consumer's attitude toward the sponsor's image. (Speed & Thompson, 2000)	
ATTS_SA_q1. I like this company (sponsor).	(Olson, 2010; Speed & Thompson, 2000)
ATTS_SA_q2. This company (sponsor) has a good reputation.	
ATTS_SA_q3. I can highly recommend this company (sponsor) to others.	
ATTS_SA_q4. I think the company (sponsor) has a positive profile.	
<b>Ubiquity:</b> Consumer's perception of the frequency and selectivity of a firm's sponsorship activity. (Speed & Thompson, 2000)	
ATTS_Ub_q1. This company sponsors many different eSports events.	(Speed & Thompson, 2000)
ATTS_Ub_q2. It is common to see this company sponsoring eSports events.	
ATTS_Ub_q3. I expect this company to sponsor major eSports events.	
<b>Sincerity (Motive):</b> Consumer attributions of why sponsors engage in sponsorship. (Kim et al., 2015)	
ATTS_Si_q1. The main reason why this company (sponsor) is involved in this event is because they believe this event deserves support.	(Speed & Thompson, 2000)
ATTS_Si_q2. This company (sponsor) is likely to have the best interests of eSports at heart.	
ATTS_Si_q3. This sponsor would probably support the event even if it had a much lower profile.	
<b>2. Attitudes toward the event</b>	
<b>Personal liking for the event:</b> Consumers' overall attitude toward the event. (Speed & Thompson, 2000)	
ATTE_PLE_q1. I am a strong supporter of this event.	(Martensen et al., 2007; Speed and Thompson, 2000)
ATTE_PLE_q2. I enjoy watching/attending this event.	
ATTE_PLE_q3. This event is important to me.	
ATTE_PLE_q4. I will be pleased to recommend this event to others.	
<b>Status of the event (Prestige):</b> Consumers' perception of how the outside world views and evaluates the event. (Kim et al., 2015)	

ATTE_SE_q1. This is a significant eSports event.	(Cornwell & Coote, 2005; Speed & Thompson, 2000)
ATTE_SE_q2. People in my community think highly of this event.	
ATTE_SE_q3. This event is considered to be one of the best eSports events.	
<b>3. Attitudes toward the sponsorship</b>	
<b>Sponsor-event fit:</b> Attitude towards the pair sponsor/event and degree to which the pair is perceived as well matched. (Fleck & Quester, 2007; Speed & Thompson, 2000)	
ATTShip_SF_q1. There is a logical connection between the event and the sponsor.	(Speed & Thompson, 2000)
ATTShip_SF_q2. The image of the event and the image of the sponsor are similar.	
ATTShip_SF_q3. The sponsor and the event fit together well.	
ATTShip_SF_q4. The company and the event stand for similar things.	
ATTShip_SF_q5. It makes sense to me that this company sponsors this event.	
<b>4. Attitudes toward the sponsored activity</b>	
<b>Activity involvement:</b> “A person's perceived relevance of the object based on inherent needs, values, and interests” (Zaichkowsky, 1985)	
ATTA_AI_q1. Playing video games is important for me.	(Grohs & Reisinger, 2014)
ATTA_AI_q2. Watching eSports tournaments is one of the most enjoyable things that I do.	
ATTA_AI_q3. I like to engage in any types of eSports activities.	
ATTA_AI_q4. For me, playing video games is exciting.	

#### 4.1.2 Pilot Test

Prior to pilot testing, the questionnaire was translated from English to Chinese with the help of experts from the esports industry. A pilot test was conducted from June 10 to June 18, 2020 with ten respondents, who are gamers and esports fans. After review of the results with exploratory factor analysis (EFA), some modifications were made.

In spite of the coefficient alpha score recommended by Devellis (1991), which is 0.70, other scholars such as Nunnally and Bernstein (1994) claimed that 0.60 is acceptable. Hence, those items with Cronbach's alpha which were below 0.60 were eliminated and replaced with new relevant item. As for items with Cronbach's alpha between 0.60 to 0.70, they were slightly altered to make the meaning of sentences more precise for gamers. As shown in Table 4-3, the alpha scores of all constructs are above 0.60 except status of the event. Table 4-4 illustrates the validity result of constructs, showing that the factor loadings of some items are below the threshold 0.50, which led to the modifications.

**Table 4-3** Reliability Result of Pilot Test (source: own creation)

Variables		Items	Cronbach's $\alpha$
Attitudes toward the sponsor	Sponsor attitude	3	.902
	Ubiquity	3	.671
	Sincerity	3	.606
Attitudes toward the event	Personal liking for the event	4	.925
	Status of the event	3	.391
Attitudes toward the sponsorship	Sponsor-event fit	5	.864
Attitudes toward the activity	Activity involvement	4	.652
Brand association	Brand association	4	.640
Purchase intent	Purchase intent	3	.925

**Table 4-4** Validity Result of Pilot Test (source: own creation)

Variables		Items	Factor loadings	Eigenvalues	Total Variance Explained (%)
Attitudes toward the sponsor	Sponsor attitude	ATTSor_SA_q1	.861	2.538	84.610
		ATTSor_SA_q2	.970		
		ATTSor_SA_q3	.925		
	Ubiquity	ATTSor_Ub_q1	.960	1.888	62.527
		ATTSor_Ub_q2	.971		
		ATTSor_Ub_q3	.149		
	Sincerity	ATTSor_Si_q1	.864	1.777	59.238
		ATTSor_Si_q2	.886		
		ATTSor_Si_q3	.496		
Attitudes toward the event	Personal liking for the event	ATTE_PLFE_q1	.786	3.363	84.063
		ATTE_PLFE_q2	.980		
		ATTE_PLFE_q3	.909		
		ATTE_PLFE_q4	.980		
	Status of the event	ATTE_SE_q1	.928	1.724	57.458
		ATTE_SE_q2	.000		
ATTE_SE_q3		.928			
Attitudes toward the sponsorship	Sponsor-event fit	ATTShip_SF_q1	.890	3.458	69.159
		ATTShip_SF_q2	.921		
		ATTShip_SF_q3	.679		
		ATTShip_SF_q4	.906		
		ATTShip_SF_q5	.732		
Attitudes toward the activity	Activity involvement	ATTA_AI_q1	.759	1.816	91.022
		ATTA_AI_q2	.739		
		ATTA_AI_q3	.713		

		ATTA_AI_q4	.672		
Brand association	Brand association	BA_q1	.479	1.816	91.022
		BA_q2	.763		
		BA_q3	.820		
		BA_q4	.747		
Purchase intent	Purchase intent	PI_q1	.958	2.618	87.264
		PI_q2	.961		
		PI_q3	.882		

## 4.2 Participants & Procedure

This survey adopts purposive sampling technique for the selection of the subjects. Questionnaire was distributed from June 26 to July 6, 2020 with the help of Cyber Games Arena, a leading esports event organizer in Hong Kong and Taiwan, to their membership database in Taiwan via email. The members of Cyber Games Arena are familiar with esports and have participated in esports event in recent years. This survey was carried out in Taiwan.

All participants were each e-mailed the questionnaire with explanation of the purpose and procedure. A total of 596 completed questionnaires were returned, in which 205 questionnaires were invalid, leaving 391 valid ones at rate of 65.6%.

**Table 4-5** Collection of Questionnaires (source: own creation)

Type	Collected	Valid	Valid respondent rate (%)
Survey Cake (Online Survey)	596	391	65.6

Among 391 respondents, approximately 88% were Male, which reflects current demographics of Taiwanese gamers since the majority of gamers in Taiwan are Male according to the survey of Newzoo (2017a).

**Table 4-6** Gender (source: own creation)

Variable	Category	Number	Percentage (%)
Gender	Male	345	88.2
	Female	42	10.7
	Not specified	4	1.1
Sum		391	100%

The majority (79.3%) of the respondents' ages ranged from 18 to 24, with 29.2% below 18 and 50.1% ranging from 19 to 24 respectively. Based on the survey of Verizon Media (2017), which is owned by Yahoo company, nearly 80% of Taiwanese gamers are Y (18-35 years) and Z (below 17 years) generation. In brief, the subjects in the study is representative for the Taiwanese gamers.

**Table 4-7** Age (source: own creation)

Variable	Category	Number	Percentage (%)
Age	Under 18 years	114	29.2
	19 ~ 24 years	196	50.1
	25 ~ 34 years	62	15.9
	35 ~ 44 years	15	3.8
	45 ~ 54 years	2	0.5
	50 ~ 70 years	2	0.5
Sum		391	100%

Other demographic variables including marital status, education level, and household income are provided in Table 4-8 to 4-10.

**Table 4-8** Marital Status (source: own creation)

Variable	Category	Number	Percentage (%)
<i>Marital Status</i>	Married	370	94.6
	Single	21	5.4
Sum		391	100%

**Table 4-9** Education Level (source: own creation)

Variable	Category	Number	Percentage (%)
Education level	Less than high school	29	7.4
	High school diploma	138	35.3
	Bachelor's degree	205	52.4
	Master's degree	18	4.6
	PhD	1	0.3
	Sum	391	100%

**Table 4-10** Household Income (source: own creation)

Variable	Category	Number	Percentage (%)
Monthly Household Income	No income	177	45.3
	Under 10,000 TWD	52	13.3
	10,001~30,000 TWD	87	22.2
	30,001~50,000 TWD	51	13.0
	Above 50,001TWD	24	6.2
	Sum	391	100%

Moreover, the survey designed three additional questions related to gamers' behavior in order to obtain more insight of participants. Firstly, respondents were asked "How many hours do you spend playing video games per day?". Nearly half of respondents spent more than 4 hours while approximately 32% of subjects spent 2 to 4 hours playing video games. This result is correspondent with the survey of Verizon Media (2017), indicating that the average Taiwanese gamer spent over 2.5 hours per day playing videos games.

**Table 4-11** Average Hours of Playing Video Games (Author's own creation)

Variable	Category	Number	Percentage (%)
Average hours of playing video games (daily)	Under 1 hour	13	3.3
	1-2 hours	55	14.1
	2-4 hours	127	32.5
	Above 4 hours	196	50.1
	Sum	391	100%

Secondly, respondents were asked “How many hours of esports or online gaming streams do you watch per week?”. The results showed that more than 60% of subjects spent only 1 to 2 hours watching esports streams.

**Table 4-12** Average Hours of Watching Esports Streams (source: own creation)

Variable	Category	Number	Percentage (%)
Average hours of watching esports streams (weekly)	1-2 hours	243	62.2
	3-4 hours	82	20.9
	5-6 hours	33	8.4
	7-8 hours	11	2.8
	9-10 hours	1	0.3
	Above 11 hours	21	5.4
	Sum	391	100%

Thirdly, respondents were asked “Do you follow the latest esports news or stories?”. About 83% of the participants chose the answer “yes”.

**Table 4-13** Whether Following Latest Esports News/Stories (source: own creation)

Variable	Category	Number	Percentage (%)
Whether following latest esports news/stories	Yes	326	83.4
	No	65	16.6
	Sum	391	100%

In addition, respondents were asked to select one of the esports sponsorship projects that they are familiar with in the beginning of this survey. 19 sponsorship projects can be categorized into 5 groups, representing 5 different tournaments. The results demonstrated that the most chosen one was type 1 (53.2%) and the least chosen one was type 2 (3.07%).

**Table 4-14** Selection of Sponsorship Projects (source: own creation)

Variable	Category	Name	Number	Percentage (%)
Sponsorship projects (tournament type)	1	League of Legends	208	53.20
		World Championship		
	2	Dota 2	12	3.07
		The International		

3	IEM Katowice	43	11.00
4	PUBG	97	24.81
Global Championship			
5	Overwatch League	31	7.93
Sum		391	100%

## 5 Data Analysis and Result

The sample size of current study reaches the statistical criteria of having at least 200 respondents to run SEM (Weston & Gore, 2006). SEM is a multivariate analysis technique and it is seen as a combination of factor analysis and multiple regression analysis. It consists of two main stages of evaluation: 1) measurement model: the relationship between observed variables and latent variables; 2) structural model: the relationship between latent variables (Hair, Black, Babin, & Anderson, 2009).

As recommended by Anderson and Gerbing (1988), a two-step approach of SEM was employed. Firstly, Confirmatory Factor Analysis (CFA) was used to estimate measurement model with aim to specify the relationship between constructs/variables/items, and to assure the reliability and validity of constructs. Secondly, SEM with maximum likelihood estimation was carried out to test the research hypotheses in the structural model. The statistical programs SPSS and AMOS were used for the data analysis process.

### 5.1 Measurement Model

#### 5.1.1 Normality Test

Prior CFA was conducted, the normality of the data was tested by firstly looking at skewness and kurtosis values of each variables. Following Bollen and Long's (1993) suggestion, when the absolute skewness and kurtosis value of observed variables are lower than 2, the observed variables reveal normality. Additionally, the multivariate normality was also tested by looking at Mardia coefficient value. Based on Bollen (1989), when Mardia coefficient is less than  $p(p+2)$  ( $p$  is the number of observed variables), it shows multivariate normality. As presented in Table 5-1, both skewness

and kurtosis values as well as Mardia value were within acceptable range, which concluded that the data was normally distributed.

**Table 5-1** Normality Test (source: own creation)

Dimension	Variable	Items	skewness	Kurtosis
Attitudes toward the sponsor	Sponsor attitude	ATTS_SA_q1	-0.167	-0.063
		ATTS_SA_q2	0.059	-0.784
		ATTS_SA_q3	0.122	-0.42
		ATTS_SA_q4	-0.063	-0.353
	Ubiquity	ATTS_Ub_q1	0.018	-0.708
		ATTS_Ub_q2	-0.073	-0.513
		ATTS_Ub_q3	-0.3	-0.955
	Sincerity	ATTS_Si_q1	-0.292	-0.161
		ATTS_Si_q2	-0.167	-0.381
ATTS_Si_q3		-0.083	-0.153	
Attitudes toward the event	Personal liking for the event	ATTE_PLE_q1	-0.202	-0.704
		ATTE_PLE_q2	-0.248	-0.583
		ATTE_PLE_q3	-0.038	-0.207
		ATTE_PLE_q4	-0.199	-0.384
	Status of the event	ATTE_SE_q1	-0.355	-0.393
		ATTE_SE_q2	-0.098	-0.177
		ATTE_SE_q3	0.005	-0.135
Attitudes toward the sponsorship	Sponsor-event fit	ATTShip_SF_q1	-0.007	-0.244
		ATTShip_SF_q2	-0.087	0.291
		ATTShip_SF_q3	0.018	-0.076
		ATTShip_SF_q4	0.156	-0.009
		ATTShip_SF_q5	-0.047	-0.253
Attitudes toward the sponsored activity	Activity involvement	ATTA_AI_q1	-0.682	-0.797
		ATTA_AI_q2	-0.369	-0.976
		ATTA_AI_q3	-0.307	-0.654
		ATTA_AI_q4	-0.966	0.117
Brand association	Brand association	BA_q1	0.13	-0.518
		BA_q2	-0.242	0.056
		BA_q3	-0.139	0.011
		BA_q4	-0.135	-0.015
Purchase intention	Purchase	PI_q1	-0.093	-0.205

	intention	PI_q2	-0.174	-0.284
		PI_q3	-0.129	-0.144
<b>Mardia Coefficient</b>			<b>486.520</b>	<b><math>p(p+2) = 1,155</math></b>

Note: p is the number of observed variables, and  $p(p+2)$  should be larger than Mardia coefficient.

### 5.1.2 Offending Estimate Test

Prior to the evaluation of measurement model, the offending estimate test was conducted to make sure the estimated parameter was not violating the following rules (Hair et al., 2009):

- 1) The existence of a negative error variance.
- 2) Correlation coefficient between factors exceed or too close to 1 (normally using 0.95 as the threshold)
- 3) Standard error is too large

After statistical analysis, the error variance (EV) was found to be positive (between 0.00 and 0.83), the standardized factor loading (SFL) was between 0.654 and 0.933, which was below the threshold 0.95, and the standard error (SE) was between 0.036 and 0.084. Therefore, this measurement model did not show offending estimates.

**Table 5-2** Confirmatory Analysis of The Measurement Model (source: own creation)

Dimension	Variable	SFL(T-value)	SE	EV	CR	AVE	
	Sponsor attitude				.911	.719	
Attitudes toward the sponsor	ATTS_SA_q1	.836(19.946)	.157	.212			
	ATTS_SA_q2	.839(20.092)	.148	.186			
	ATTS_SA_q3	.818(19.34)	.159	.234			
	ATTS_SA_q4	.897(22.376)	.140	.119			
	Ubiquity				.853	.662	
	ATTS_Ub_q1	.894(21.656)	.147	.128			
	ATTS_Ub_q2	.865(20.646)	.155	.173			
	ATTS_Ub_q3	.663(13.903)	.177	.385			
	Sincerity					.819	.604
	ATTS_Si_q1	.843(19.626)	.166	.271			

	ATTS_Si_q2	.820(18.773)	.182	.134
	ATTS_Si_q3	.654(13.761)	.193	.355
<hr/>				
	Personal liking for the event			.894 .678
Attitudes toward the event	ATTE_PLE_q1	.805(18.77)	.171	.280
	ATTE_PLE_q2	.858(20.752)	.154	.182
	ATTE_PLE_q3	.787(18.197)	.180	.328
	ATTE_PLE_q4	.842(20.164)	.160	.213
	Status of the event			.833 .625
	ATTE_SE_q1	.842(20.066)	.161	.216
	ATTE_SE_q2	.770(17.507)	.161	.283
	ATTE_SE_q3	.757(17.074)	.169	.471
<hr/>				
	Sponsor event fit			.937 .750
Attitudes toward the sponsorship	ATTShip_SF_q1	.783(18.271)	.163	.214
	ATTShip_SF_q2	.873(21.595)	.148	.271
	ATTShip_SF_q3	.933(24.241)	.140	.311
	ATTShip_SF_q4	.888(22.24)	.144	.202
	ATTShip_SF_q5	.846(20.52)	.151	.204
<hr/>				
	Activity involvement			.847 .580
Attitudes toward the sponsored activity	ATTA_AI_q1	.741(15.807)	.170	.272
	ATTA_AI_q2	.749(16.298)	.163	.225
	ATTA_AI_q3	.763(16.656)	.171	.295
	ATTA_AI_q4	.792(17.398)	.156	.276
<hr/>				
	Brand association			.894 .678
Brand association	BA_q1	.832(19.764)	.153	.291
	BA_q2	.842(20.112)	.157	.219
	BA_q3	.796(18.485)	.166	.280
	BA_q4	.824(19.438)	.159	.160
<hr/>				
	Purchase intention			.833 .625
Purchase intention	PI_q1	.815(18.835)	.174	.085
	PI_q2	.899(21.884)	.154	.137

PI\_q3 .708(15.475) .173 .192

Note: SFL is standardized factor loading; SE is the standard error of factor loading; EV is error variance; CR is composite reliability; and AVE is average variance extracted.

### 5.1.3 Reliability and Validity

#### A. Reliability

Reliability stands for the overall consistency and stability of a measure (Kirk and Miller, 1986). In other words, the results are repeatable and replicable under a similar methodology. To date, one of the most widely used measure of reliability is Cronbach's alpha, which assesses the internal consistency of test items, that is, how closely related a set of items are as a group. Devellis (1991) recommend a minimum coefficient alpha score of 0.70. The Table 5-3 illustrates that the alpha scores of all constructs are above 0.70, and consequently, all items show internal consistency.

**Table 5-3** Reliability Analysis (source: own creation)

Dimension	Variable	Items	M	SD	Cronbach's $\alpha$
Attitudes toward the sponsor	Sponsor attitude	4	3.786	.664	.911
	Ubiquity	3	3.900	.671	.832
	Sincerity	3	3.679	.813	.814
Attitudes toward the event	Personal liking for the event	4	3.807	.772	.893
	Status of the event	3	3.783	.712	.836
Attitudes toward the sponsorship	Sponsor-event fit	5	3.658	.677	.935
Attitudes toward the sponsored activity	Activity involvement	4	4.209	.643	.846
Brand association	Brand association	4	3.739	.703	.894
Purchase intention	Purchase intention	3	3.715	.741	.850

## **B. Validity**

Validity refers to the accuracy of a measure, that is, whether the instrument accurately measures what it is supposed to assess. There are a variety of methods to test validity. To date, construct validity is generally considered as a unifying form of validity for measurements (Krabbe, 2016). Construct validity consists of two aspects: convergent and discriminant validity. The former stands for the degree to which a measure is linked to others under similar constructs; while the latter concerns the degree to which a measure can be distinguished from measures of different constructs (Campbell & Fiske, 1959).

### *1) Convergent validity*

The convergent validity of a measurement model can be assessed by calculating average variance extracted (AVE), composite reliability (CR), and standardized factor loading (SFL). According to Fornell and Lacker (1981) and Hair et al. (2009), the required threshold values are presented as follows:

#### ***SFL***

SFL refers to the degree to which a latent variable can be explained by an observed variable. The threshold of factor loading is least 0.50. As shown in Table 5-2, factor loadings were between 0.654 and 0.933, which were greater than the minimum requirement of 0.50.

#### ***CR***

CR refers to the internal consistency of constructs, which is similar to Cronbach's alpha. The acceptable level of CR is at least 0.70. As displayed in Table 5-2, the composite reliabilities of the nine constructs were all above 0.70, ranging from 0.819 to 0.937.

#### ***AVE***

AVE refers to the degree to which a latent variable can be explained by all observed variables. The minimum AVE value of each latent variable is at least 0.50. As

presented in Table 5-2, all AVE values were greater than the 0.50 standard, ranging from 0.580 to 0.750.

The above result indicated that the measure possessed convergent validity.

## 2) *Discriminant validity*

The discriminant validity can be examined by calculating the squared root of average variance extracted (AVE) for each construct and comparing it with the correlation between all pairs of constructs (latent variables). When the squared root of AVE of each construct is greater than the correlation involving constructs, and at least represented by 75% of overall comparative number, it indicates discriminant validity (Hair et al., 2009). As presented in Table 5-4, the square roots of AVE were between 0.762 and 0.866, which were larger than all numbers of correlative coefficient in various constructs. Hence, the measure possessed discriminant validity.

**Table 5-4** Test of Discriminant Validity (source: own creation)

Variable	I t e m s	Correlation Matrix								
		A.	B.	C.	D.	E.	F.	G.	H.	I.
A Sponsor attitude	4	<b>.848</b>								
B Ubiquity	3	.517	<b>.814</b>							
C Sincerity	3	.650	.521	<b>.777</b>						
E Personal liking event	4	.268	.256	.232	<b>.823</b>					
F Status of the event	3	.323	.350	.287	.937	<b>.791</b>				

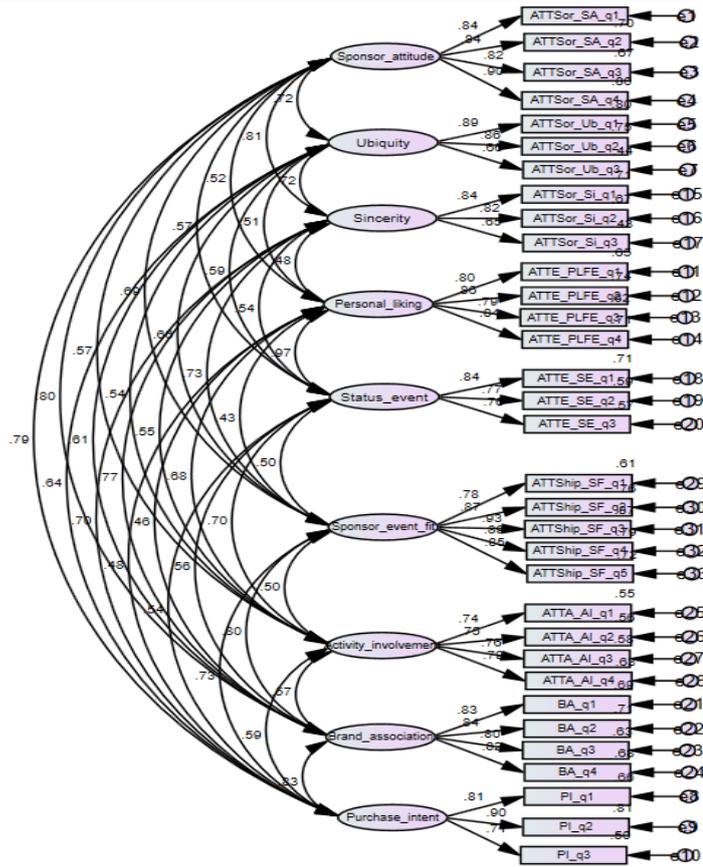
G	Sponsor event fit	5	.477	.433	.539	.185	.252	<b>.866</b>			
H	Activity involvement	4	.321	.287	.300	.457	.493	.252	<b>.762</b>		
I	Brand association	4	.642	.368	.590	.211	.319	.632	.326	<b>.823</b>	
J	Purchase intention	3	.629	.404	.486	.234	.289	.534	.345	.694	<b>.791</b>

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Note: The **diagonal value** is the AVE square root of the variable, whose value should be larger than non-diagonal value. All values were significant ( $p < .001$ ).

#### 5.1.4 Model Fit

CFA was performed to test the fit of measurement model. According to the criteria from the literature (Bollen, 1990; Bentler & Bonett, 1980; Doll, Xia & Torkzadeh, 1994; Hu & Bentler, 1999; McDonald & Ho, 2002), the results (chi-square  $\chi^2 = 1108.142$ ,  $\chi^2/df = 2.414$ ,  $p = .000$ , GFI = .855, AGFI = .823, RMR = .035, RMSEA = .060, NNFI = .927, CFI = .936, IFI = .937) in Table 5-6 indicated an favorable fitness.



**Figure 5-1** Confirmatory Analysis (source: own creation)

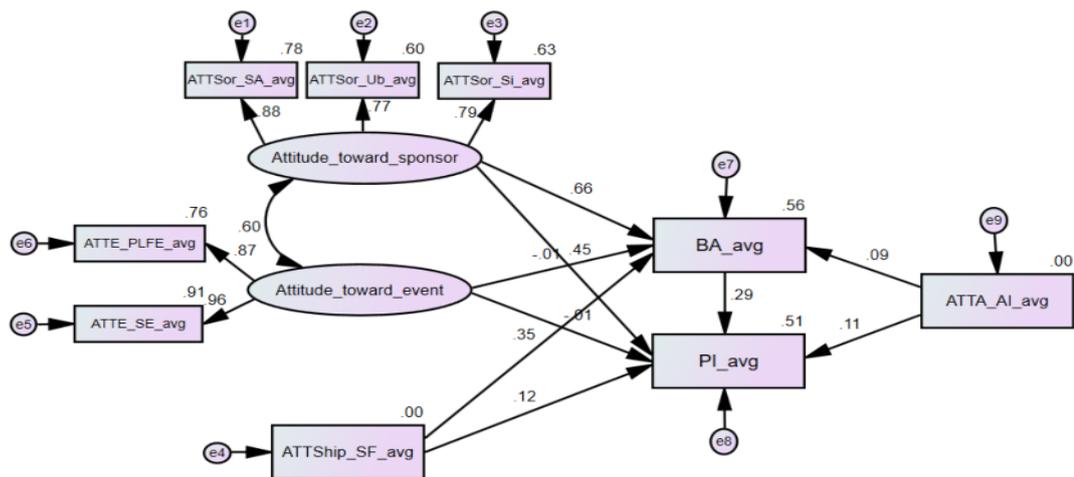
**Table 5-5** Model Fit of Measurement Model (source: own creation)

Statistic test	Standard	Test result	Fitness
$\chi^2$	The less the better	1108.142 (P=.000)	Yes
$\chi^2/df$	< 3	2.414	Yes
GFI	>.80	.855	Yes
AGFI	>.08	.823	Yes
RMR	<.08	.035	Yes
RMSEA	<.08	.060	Yes
NNFI	>.90	.927	Yes
CFI	>.90	.936	Yes
IFI	>.90	.937	Yes

## 5.2 Structural Model (Hypotheses Testing)

In the structural model, path analysis was conducted to examine the relationship between variables.

The statistical results of path analysis are illustrated in Figure 5-2, Figure 5-3, Table 5-7 and Table 5-8. Figure 5-2 and Table 5-7 concern the path relationship between major independent variables (Attitudes toward the sponsor, Attitudes toward the event, Attitudes toward the sponsorship, Attitudes toward the sponsored activity) and dependent measures (Brand association, Purchase intent). This study further investigated the path relationship between dependent measures and the second layer of variables (Sponsor attitude, Ubiquity, Sincerity, Personal liking for the event, Status of the event, Sponsor-event fit, Activity involvement) as displayed in Figure 5-3 and Table 5-8.



**Figure 5-2** Standardized Estimates of Structural Model -1 (source: own creation)

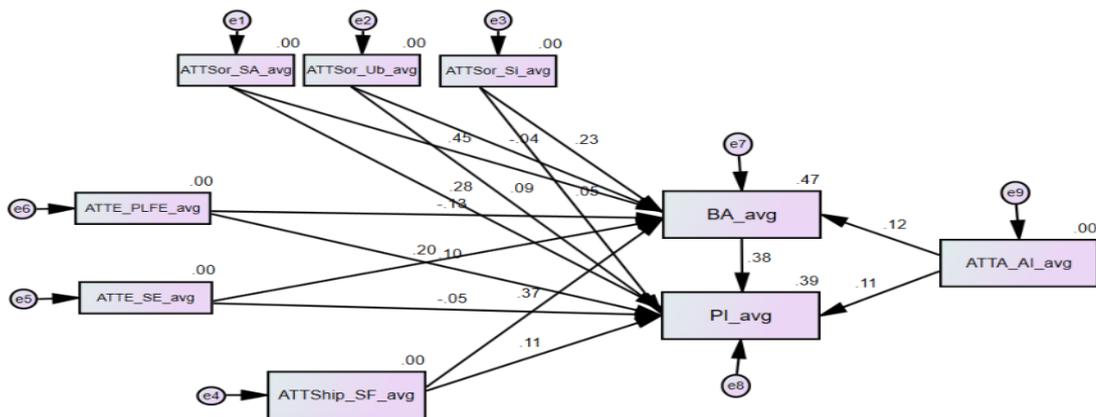
**Table 5-6** Test of Path Relationship-1 (source: own creation)

	Hypothesis/ Path	$\beta$	T	P	Significant
H1a	Attitude toward the sponsor → Brand association	.659	10.196	***	Yes
H2a	Attitude toward event → Brand association	-.009	-.170	.865	No
H3a	Attitude toward the sponsorship → Brand association	.350	7.614	***	Yes
H4a	Attitude toward the activity →	.090	1.931	.0440	Yes

Brand association

H1b	Attitude toward the sponsor → Purchase intention	0.447	5.516	***	Yes
H2b	Attitude toward event → Purchase intention	-.008	-.150	.881	No
H3b	Attitude toward the sponsorship → Purchase intention	.117	2.37	.018	Yes
H4b	Attitude toward the activity → Purchase intention	.112	2.327	.02	Yes
H5	Brand association → Purchase intention	.294	4.917	***	Yes

Note:\*\*\*:  $p < .001$



**Figure 5-3** Standardized Estimates of Structural Model-2 (source: own creation)

**Table 5-7** Test of Path Relationship-2 (source: own creation)

Hypothesis/Path	$\beta$	T	P	Significant
H1-1a Sponsor attitude → Brand association	.447	7.643	***	Yes
H1-2a Sincerity → Brand association	.234	4.159	***	Yes
H1-3a Ubiquity → Brand association	-.037	-.662	.508	No
H2-1a Personal liking for the event → Brand association	-.131	-1.904	.057	No

H2-2a	Status of the event → Brand association	.203	2.885	.004	Yes
H3a	Sponsor-event fit → Brand association	.373	7.749	***	Yes
H4a	Activity involvement → Brand association	.116	2.359	.018	Yes
H1-1b	Sponsor attitude → Purchase intention	.276	4.107	***	Yes
H1-2b	Sincerity → Purchase intention	.047	.760	.447	No
H1-3b	Ubiquity → Purchase intention	.088	1.463	.144	No
H2-1b	Personal liking for the event →Purchase intention	.099	1.335	.182	No
H2-2b	Status of the event →Purchase intention	-.048	-.632	.528	No
H3b	Sponsor-event fit →Purchase intention	.113	2.035	.042	Yes
H4b	Activity involvement → Purchase intention	.108	2.029	.042	Yes
H5	Brand association → Purchase intention	.381	7.033	***	Yes

The results of hypothesis testing are explained as follows:

**1) H1a: Consumers who have a positive attitude toward the sponsor are more likely to enhance their brand association of a sponsor.**

*H1-1a: Sponsor attitude is positively related to the enhancement of brand association.*

*H1-2a: Sincerity (Motive) is positively related to the enhancement of brand association*

*H1-3a: Ubiquity is positively related to the enhancement of brand association.*

Attitudes toward the sponsor was found to correlate positively and significantly ( $\beta = .059, p < .001$ ) with brand association, which supported Hypothesis H1a. However,

a further examination of components of “Attitudes toward the sponsor” revealed that only sponsor attitude ( $\beta = .447, p < .001$ ) and sincerity ( $\beta = .234, p < .001$ ) had positive and significant effect on brand association. Conversely, the interaction between ubiquity and brand association showed no significant contribution. Hence, Hypothesis H1-1a and H1-2a were confirmed, but H1-3a was rejected.

**2) H1b: Consumers who have a positive attitude toward the sponsor are more likely to express positive purchase intents toward sponsor’s products.**

*H1-1b: Sponsor attitude is positively related to the purchase intent.*

*H1-2b: Sincerity (Motive) is positively related to the purchase intent.*

*H1-3b: Ubiquity is positively related to the purchase intent.*

Attitudes toward the sponsor was correlated positively and significantly ( $\beta = .447, p < .001$ ) with purchase intent, thus, Hypothesis H1b was confirmed. However, within the group “Attitudes toward the sponsor”, it showed that only sponsor attitude has a significant positive correlation ( $\beta = .276, p < .001$ ) with purchase intent. Sincerity and uniqueness showed positively but not significantly related to purchase intent, which supported Hypothesis H1-1b but not H1-2b and H1-3b.

**3) H2a: Consumers who have a positive attitude toward the event are more likely to enhance their brand association of a sponsor.**

*H2-1a: Personal liking for the event is positively related to the enhancement of brand association.*

*H2-2a: Status of the event (prestige) is positively related to the enhancement of brand association.*

There was a negative but no significant correlation ( $\beta = -.009, p = .865$ ) between attitudes toward the event and brand association, which rejected Hypothesis H2a. As for its components, personal liking for the event showed the same result ( $\beta = -.131, p = .057$ ) as attitudes toward the event, leading to the rejection of Hypothesis H2-1a. Nevertheless, status of the event was positively and significantly ( $\beta = .203, p = .004$ ) related to brand association, leading to the acceptance of Hypothesis H2-2a.

**4) H2b: Consumers who have a positive attitude toward the event are more likely to express positive purchase intent toward sponsor's products.**

*H2-1b: Personal liking for the event is positively related to the purchase intent.*

*H2-2b: Status of the event (prestige) is positively related to the purchase intent.*

There was a negative but no significant correlation ( $\beta = -.008$ ,  $p = .881$ ) between attitude toward the event and purchase intent, which rejected Hypothesis H2b. Personal liking for the event showed a positive but no significant effect on purchase intent, while status of the event had a negative but no significant effect on purchase intent. Thus, Hypothesis H2-1b and H2-2b were both rejected.

**5) H3a: Sponsor-event fit is positively related to the enhancement of brand association.**

The results indicated that both attitudes toward the sponsorship ( $\beta = .350$ ,  $p < .001$ ) and sponsor-event fit ( $\beta = .373$ ,  $p < .001$ ) were positively and significantly correlated with brand association. Thus, Hypothesis H3a was supported.

**6) H3b: Sponsor-event fit is positively related to the purchase intent.**

The results indicated that both attitudes toward the sponsorship ( $\beta = .117$ ,  $p = .018$ ) and sponsor-event fit ( $\beta = .113$ ,  $p = .042$ ) correlated positively and significantly with purchase intent. Thus, Hypothesis H3b was confirmed.

**7) H4a: Consumers who have higher levels of sponsored activity involvement are more likely to enhance their brand association of a sponsor.**

Both attitudes toward the sponsored activity ( $\beta = .090$ ,  $p = .044$ ) and activity involvement ( $\beta = .116$ ,  $p = .018$ ) influenced positively and significantly brand association, which supported Hypothesis H4a.

**8) H4b: Consumers who have higher levels of sponsored activity involvement are more likely to express positive purchase intent toward sponsor's products.**

Both attitudes toward the sponsored activity ( $\beta = .112$ ,  $p = .02$ ) and activity involvement ( $\beta = .108$ ,  $p = .042$ ) were positively and significantly associated with purchase intent, which supported Hypothesis H4b.

**9) H5: Brand association is positively related to purchase intent.**

Brand association was shown a positive and significant effect ( $\beta = .294$ ,  $p < .001$ ) on purchase intent, thus, the Hypothesis H5 was confirmed.

The results of hypotheses testing were summarized in Table 5-9.

**Table 5-8** Summary of Hypotheses Testing Result (source: own creation)

Hypotheses	Result
<b>H1a:</b> Consumers who have a positive attitude toward the sponsor are more likely to enhance their brand association of a sponsor.	Supported
<b>H1-1a:</b> Sponsor attitude is positively related to the enhancement of Brand association.	Supported
<b>H1-2a:</b> Sincerity is positively related to the enhancement of brand association.	Supported
<b>H1-3a:</b> Ubiquity is positively related to the enhancement of brand association.	Not supported
<b>H1b:</b> Consumers who have a positive attitude toward the sponsor are more likely to express positive purchase intents toward sponsor's products.	Supported
<b>H1-1b:</b> Sponsor attitude is positively related to the purchase intent.	Supported
<b>H1-2b:</b> Sincerity (Motive) is positively related to the purchase intent.	Not supported
<b>H1-3b:</b> Ubiquity is positively related to the purchase intent.	Not supported

<b>H2a:</b> Consumers who have a positive attitude toward the event are more likely to enhance their brand association of a sponsor.	Not supported
<b>H2-1a:</b> Personal liking for the event is positively related to the enhancement of brand association.	Not supported
<b>H2-2a:</b> Status of the event (prestige) is positively related to the enhancement of brand association.	Supported
<b>H2b:</b> Consumers who have a positive attitude toward the event are more likely to express positive purchase intent toward sponsor's products.	Not supported
<b>H2-1b:</b> Personal liking for the event is positively related to the purchase intent.	Not supported
<b>H2-2b:</b> Status of the event (prestige) is positively related to the purchase intent.	Not supported
<b>H3a:</b> Sponsor-event fit is positively related to the enhancement of brand association.	Supported
<b>H3b:</b> Sponsor-event fit is positively related to the purchase intent.	Supported
<b>H4a:</b> Consumers who have a higher levels of sponsored activity involvement are more likely to enhance their brand association of a sponsor.	Supported
<b>H4b:</b> Consumers who have a higher levels of sponsored activity involvement are more likely to express positive purchase intent toward sponsor's products.	Supported
<b>H5:</b> Brand association is positively related to purchase intent.	Supported

Additionally, this study further investigated whether respondents who chose distinct types of esports tournament have different influence on brand association and purchase intent. To achieve this purpose, firstly, nineteen pairs of sponsorship projects were classified into five types of esports tournament, and then a one-way analysis of variance (ANOVA), which tests the significance of group differences between two or more groups, was performed. After having conducted ANOVA, a post hoc test was conducted to determine where the differences truly come from, that is, which group of esports tournaments exerts major influence on brand association and purchase intent. This study chose Scheffé post hoc test, which is recommended over other methods (Andrew, Pedersen, & McEvoy, 2019).

As displayed in Table 5-10, there is a significant difference ( $F = 4.343$ ,  $p < .01$ ) between different types of esports tournaments toward brand association. The result of the Scheffé post hoc test pointed out that the differences existed between type 4 and type 1. Respondents who selected type 4 ( $M=3.918$ ,  $SD=.737$ ) were found to possess deeper brand association of sponsors (brands) than those who chose type 1 ( $M=3.624$ ,  $SD=.735$ ).

**Table 5-9** ANOVA-Different Esports Tournaments toward Brand Association (source: own creation)

Dimension	Category	Name	M	SD	F value	P value	Post hoc
Brand association	1	League of Legends World Championship	3.624	.735	4.343	**	4>1
	2	Dota 2 The International	4.188	.716			
	3	IEM Katowice	3.837	.645			
	4	PUBG Global Championship	3.918	.737			
	5	Overwatch League	3.645	.632			

Note: \* means  $p < .05$ ; \*\* means  $p < .01$ ; and \*\*\* means  $p < .001$

As presented in Table 5-11, there is a significant difference ( $F = 6.408$ ,  $p < .001$ ) between different types of esports tournaments toward purchase intent. With Scheffé post hoc test, the difference was found to exist between type 4 and type 1. It is also pointed out that respondents who selected type 4 ( $M=3.962$ ,  $SD=.748$ ) possessed higher purchase intent of sponsor's products than those who chose type 1 ( $M=3.575$ ,  $SD=.762$ ).

**Table 5-10** ANOVA-Different Esports Tournaments toward Purchase Intent (source: own creation)

Dimension	Category	Name	M	SD	F value	P value	Post hoc
Purchase intent	1	League of Legends World Championship	3.575	.762	6.408	***	4>1

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	Championship		
2	Dota 2	4.139	.703
	The International		
3	IEM Katowice	3.845	.672
4	PUBG Global	3.962	.748
	Championship		
5	Overwatch	3.538	.582
	League		

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Note: \* means  $p < .05$ ; \*\* means  $p < .01$ ; and \*\*\* means  $p < .001$

## 6 Discussion and Conclusions

The central aim of this study was to understand how esports sponsorship can impact consumers' association toward the sponsor's brand and consumers' intent to purchase sponsor's product. All in all, the study confirms that esports sponsorship can facilitate companies to enhance brand association and purchase intent of target audiences. Factors including *sponsor attitude*, *sincerity*, *status of the event*, *sponsor-event fit*, and *activity involvement* are proved to influence brand association. The key predictive factors of brand association are *sponsor attitude* and *sponsor-event fit*. With regard to the influential factors of purchase intent, it includes *sponsor attitude*, *sponsor-event fit*, *activity involvement*, and *brand association*. The main predictors of purchase intent are *brand association* and *sponsor-event fit*. Most of the findings are in accord with the results of the previous sport sponsorship studies, while some results of the present study might seem to contradict previous findings. All findings as well as interpretations are discussed separately in five categories: impact of attitudes toward the sponsor, impact of attitudes toward the event, impact of attitudes toward the sponsorship, impact of attitudes toward the sponsored activity, impact of brand association.

### A. Impact of attitudes toward the sponsor

In line with previous sport sponsorship research (Alonso-Dos-Santos et al., 2016; Ko et al., 2008; Speed & Thompson, 2000), *attitudes toward the sponsor* including *sponsor attitude* and *sincerity*, except ubiquity, had positive impact on brand association. In other words, if consumers feel positive toward sponsors or recognize

the motivation of sponsors for participating in the event, they are more likely to form an overall image as well as meaning of the sponsor's brand in their minds. A partial explanation for this may lie in the fact that consumers are more willing to know more information (no matter during or after the event) about the brand once they have positive attitude toward the sponsor. Besides, since *sponsor attitude* was also tied to purchase intent, the finding highlights the importance of the role of sponsor attitude in enhancing brand association and purchase intent.

Nevertheless, the result showed that *ubiquity* was associated with neither brand association nor purchase intent, which suggests that consumers disregard how many esports events sponsors are involved in when it comes to enhancing brand image or increasing purchase intent. This finding does not support any of the previous researches. Speed and Thompson (2000) believed that the correlation should be negative significant, while Ko et al. (2017) stated that it should be positive associated. Since there is no consensus regarding the role of ubiquity on brand association and purchase intent in sport sponsorship studies, more research is needed to verify whether the finding of present study is only due to esports context or other attributions.

## **B. Impact of attitudes toward the event**

In contrary to Speed and Thompson (2000) and Abreu Novais and Arcodia's (2013) observation, the present finding demonstrated that *attitudes toward the event* including *personal liking for the event*, except status of the event, had no significant correlation with brand association and purchase intent. Although consumers who have positive attitude toward the event may shift this favorable emotion toward the sponsor as well (attitudes toward the event and attitudes toward the sponsor are positively correlated), this result suggests that the preference of the esports event cannot directly translate to purchase intent and brand association.

On the other hand, the results of *status of the event* are consistent with those of Speed and Thompson (2000), showing that status of the event could positively affect brand association but had no influence on purchase intent. The findings suggest that the

role of attitudes toward the event in predicting intentions to purchase sponsor's products was unimportant.

### **C. Impact of attitudes toward the sponsorship**

The findings of *attitudes toward the sponsorship (sponsor-event fit)* are in complete agreement with results of previous researches in sport sponsorship (Dees et al., 2010; Gwinner et al., 2009; Grohs and Reisinger, 2005; Martensen et al., 2007; Rodgers, 2003; Speed and Thompson 2000), indicating that when consumers perceive sponsor-event as a good match, they will more easily form a brand association in their mind and even be more likely to purchase the sponsor's product afterwards. This result also confirms and highlights the importance of sponsor-event fit for sponsors.

### **D. Impact of attitudes toward the sponsored activity**

In accord with the previous sports sponsorship studies (Grohs & Reisinger, 2014; Ko et al., 2008; Koo & Lee, 2019; Meenaghan, 2001), *attitudes toward the sponsored activity (activity involvement)* had positive impact on both brand association and purchase intent. A possible interpretation of this result is that compared with low involvement consumers, those who are highly involved in esports are more sensitive to esports related information, and therefore are more easily able to identify the benefits as well as value position of sponsor's brand or products.

### **E. Impact of brand association**

This study represents one of the few attempts to examine the role of brand association to purchase intent in sponsorship context. The finding highlights the crucial role of brand association in driving purchase intent in the esports sponsorship, which is not surprising because as Aaker (1996) stated in his work, the main concept of brand association is differentiating brands from competitors and brand differentiation influences significantly consumers' purchase decision making.

Apart from the above discussions, another interesting finding was that gamers who participated in PUBG Global Championship possess deeper brand association of sponsor and have higher intent to purchase sponsor's product than those who participated in League of Legends World Championship. This was surprising because League of Legends World Championship was the most popular tournament in esports industry and naturally led to higher expectation of sponsorship outcome from sponsors. Possible explanations could be the sudden rise of PUBG catching more attention from fans or League of Legends World Championship has too many sponsors, which likely result in the dilution of sponsorship effectiveness. Since the reasons for this are not clear, more extensive research would be needed to make any definite claims regarding this result.

To conclude, the main contribution of present study was to provide an overall understanding of esports sponsorship effect on brand association and purchase intent. Moreover, given the fact that up to this point, there are few empirical researches of esports sponsorship, this study also contributes to validating the feasibility of applying theories as well as scales from sports to esports, providing a preliminary structural model which hopefully can serve as a foundation for future researches.

## **7 Practical Implications**

The results of this study may not only contribute to the development of esports researches, but also lead to a number of practical implications for esports marketers and sponsorship managers.

Firstly, the finding confirmed that enhancing brand association in esports sponsorship is vital for increasing consumers' intent to purchase sponsor's product. Therefore, instead of pursuing brand awareness or brand recall, marketers are recommended to shift their focus to investing time and money in leveraging esports sponsorship to build a strong, favorable and unique association of brand in the consumer's mind. Brand association can be developed and reinforced through advertising, co-branding campaign, interactive activities, endorsement or any other marketing communication tool before, during and after the event, that help fans to remember and visualize the value proposition of sponsor's brand. In addition, as suggested from the results of the

current study, marketers can also strengthen brand association via participating in high status events.

Secondly, the results emphasized the importance of sponsor-event fit for brand managers who wish to strengthen brand association and lift purchase intention. It implies that when selecting esports sponsorship, managers do not necessarily need to sponsor many major esports tournaments, instead, the essential principle is to choose a suitable one, which will be relevant and congruent to their brands. Furthermore, marketers need to initiate conversations as well as engagement with consumers via marketing communication strategies in order to create and even alter the perception of consumers toward the fit between sponsor and event. Sometimes the sponsor-event fit is loose at the beginning, especially when sponsors want to reposition their brands through sponsorship, thus, it is more crucial for marketers to be able to convey interesting points demonstrating the perfect match between their brands and sponsored events.

Lastly, the findings implied that consumers with high level of esports/gaming involvement should be valued more because it is easier to build up brand association in their minds and stimulate their willingness to purchase sponsor's product through esports sponsorship. Hence, marketers are recommended to filter high involvement consumers by implementing marketing programs pre-event and onsite for retargeting purpose.

## **8 Limitations and Recommendations for Future Research**

### **8.1 Limitations**

Although the present study yielded findings that provide theoretical and practical implications, it still has certain limitations that need to be acknowledged.

The first limitation concerns the types of esports games. This study chose to investigate only five major types of esports games and five major tournaments, thus, the findings cannot be generalized to other genres of games. Future researches are encouraged to verify current results with different games genres.

The second limitation is rooted in the measures used in this study, which were developed by Western countries. It is recommended for scholars to develop a localized scale in order to measure accurately Asians' viewpoints toward esports sponsorship.

Furthermore, due to limited time and resources, this study examined respondents' perceptions toward past events which they participated last year. Respondents may change their perceptions toward event/sponsor/sponsorship after a couple of months. Therefore, it is recommended that in future research, scholars conduct a longitudinal study with on-going events to observe the respondents' attitudes as well as sponsorship effect right after the event. It is also suggested to conduct repeated observations over a period in order to better predict sponsorship outcome.

While this study has its limitations, it is hoped that it can serve as a basis for further study in esports sponsorship.

## **8.2 Recommendations for Future Research**

In addition to suggestions mentioned in previous section, there are still some more likely directions for future research presented as below.

First, it is hoped that more empirical studies can be carried out with diverse subjects in terms of demographic and geographic, since this study investigated purely Taiwan gamers, which cannot be generalized to other geographic areas.

Second, future research might also observe actual purchases and its relationship between purchase intent as well as other variables in esports sponsorship because the recent study (Zaharia et al., 2016) revealed that purchase intent will not necessarily translate into actual behavior and it also pointed out that some variables such as attitude toward the sponsor are not significant predictors of actual purchases in sport sponsorship. Thus, more research of esports sponsorship is needed to clarify these claims.

Third, as indicated in the literature review, the objectives which brands want to achieve through sponsorship include branding and sales aspect. This study chose only to investigate brand association and purchase intent. Other branding dimensions such as brand loyalty or perception of quality could be explored.

The last recommendation for future work is to investigate the effect of streamers sponsorship, especially Twitch sponsorship, because of the following reasons. 1) The findings of current study are limited in esports events. 2) Twitch is a fast-growing and leading platform in esports industry, which has attracted brands to start investing in it.

## Bibliography

- Aaker, D.A. (1991). *Managing Brand Equity: Capitalizing on the Value of a Brand Name*. New York, NY: The Free Press.
- Aaker, D.A. (1996). Measuring Brand Equity across Products and Markets. *California Management Review*, Vol. 38, pp. 102-120.
- Abreu Novais, M., & Arcodia, C. (2013). Measuring the effects of event sponsorship: Theoretical frameworks and image transfer models. *Journal of Travel & Tourism Marketing*, Vol. 30(4), pp. 308-334.
- Alexandris, K., Tsaousi, E. and James, J. (2007). Predicting sponsorship outcomes from attitudinal constructs: the case of a professional basketball event. *Sports Marketing Quarterly*, Vol. 16, pp. 130-139.
- Alonso-Dos-Santos, M., Vveinhardt, J., Calabuig-Moreno, F., & Montoro-Ríos, F. (2016). Involvement and image transfer in sports sponsorship. *Engineering Economics*, Vol. 27(1), pp. 78-89.
- Anderson, J. C., & Gerbing, D. W. (1988). Structural equation modeling in practice: A review and recommended two-step approach. *Psychological bulletin*, Vol. 103(3), pp. 411.
- Andrew, D. P., Pedersen, P. M., & McEvoy, C. D. (2019). *Research methods and design in sport management*. Canada: Human Kinetics.
- Becker-Olsen, K., & Simmons, C. J. (2002). When do social sponsorships enhance or dilute equity? Fit, message source and the persistence of effects. *Advances in Consumer Research*, Vol. 29, pp. 287-289.
- Bentler, P. M. & Bonett, D. G. (1980). Significance tests and goodness-of-fit in the analysis of covariance structures. *Psychological Bulletin*, Vol. 88, pp. 588-606
- Biscaia, R., Correia, A.F., Rosado, A. F., Ross, S.D., & Maroco, J. (2013). Sport sponsorship: The relationship between team loyalty, sponsorship awareness, attitude toward the sponsor and purchase intentions. *Journal of Sport Management*, Vol. 27, pp. 288–302
- Bollen, K. A. (1989). *Structural equations with latent variables*. New York: Wiley
- Bollen, K. A. (1990). Overall fit in covariance structure models: Two types of sample size effects. *Psychological Bulletin*, Vol.107(2), pp. 256-259
- Bollen, K. A., & Long, J. S. (1993). *Testing structural equation models*. Newbury

Park, CA: Sage.

- Borowy, M. (2013). Pioneering eSport: the experience economy and the marketing of early 1980s arcade gaming contests. *International Journal of Communication*, Vol. 7, pp. 2254-2275.
- Breckler, SJ (1984). Empirical validation of affect, behavior, and cognition as distinct components of attitude. *Journal of Personality and Social Psychology*, Vol. 47(6), pp. 1191–1205.
- Cambridge Dictionary. (2020). Meaning of e-sports in English. Retrieved from <https://dictionary.cambridge.org/dictionary/english/e-sports>
- Campbell, D. T., & Fiske, D. W. (1959). Convergent and discriminant validation by the multitrait-multimethod matrix. *Psychological Bulletin*, Vol. 56, pp. 81–105
- Careem, N. (2019, April 30). E-sports to fight for Asian Games inclusion after being left off initial list of 37 sports for 2022 edition in Hangzhou. Retrieved from <https://www.scmp.com/sport/other-sport/article/3008308/e-sports-fight-asian-games-inclusion-after-being-left-initial>
- CES. (2019, December 16). Is Esports a Sport? Retrieved from <https://www.ces.tech/Articles/2019/Is-Esports-a-Sport.aspx>
- Choi, J., Tsuji, Y., Hutchinson, M., & Bouchet, A. (2011). An investigation of sponsorship implications within a state sports festival: The case of the Florida Sunshine State Games. *International Journal of Sports Marketing & Sponsorship*, Vol. 12, pp. 7–22.
- Clark, J. M., Cornwell, T. B., & Pruitt, S. W. (2009). The impact of title event sponsorship announcements on shareholder wealth. *Marketing Letters*, Vol. 20(2), pp.169-182.
- Close, A. G., Lacey, R., & Cornwell, T. B. (2015). Visual processing and need for cognition can enhance event-sponsorship outcomes: How sporting event sponsorships benefit from the way attendees process them. *Journal of Advertising Research*, Vol. 55(2), pp. 206-215.
- Cornwell, T. B. (2019). Less “Sponsorship as Advertising” and more sponsorship-linked marketing as authentic engagement. *Journal of Advertising*, Vol. 48(1), pp. 49-60.
- Cornwell, T. B., & Maignan, I. (1998). An international review of sponsorship research. *Journal of advertising*, Vol. 27(1), pp. 1-21.

- Cornwell, T. B., Roy, D. P., & Steinar, E. A. (2001). Exploring managers' perceptions of the impact of sponsorship on brand equity. *Journal of Advertising*, Vol. 30(2), pp. 41-51.
- Cornwell, T. B., & Coote, L. V. (2005). Corporate sponsorship of a cause: the role of identification in purchase intent. *Journal of business research*, Vol. 58(3), pp. 268-276.
- Cunningham, G.B., Fairley, S., Ferkins, L., Kerwin, S., Lock, D., Shaw, S. and Wicker, P. (2018). eSport: construct specifications and implications for sport management, *Sport Management Review*, Vol. 21(1), pp. 1-6.
- Dean, D. H. (2002). Associating the corporation with a charitable event through sponsorship: Measuring the effects on corporate community relations. *Journal of Advertising*, Vol. 31(4), pp. 77-88.
- Dees, W., Bennett, G. and Ferreira, M. (2010). Personality fit in NASCAR: an evaluation of driver sponsor congruence and its impact on sponsorship effectiveness outcomes. *Sport Marketing Quarterly*, Vol. 19 (1), pp. 25-35.
- Deitz, G. D., Myers, S. W., & Stafford, M. R. (2012). Understanding consumer response to sponsorship information: A resource-matching approach. *Psychology & marketing*, Vol. 29(4), pp. 226-239.
- Deutsche Welle (DW). (2019, August 8). Esports is not a real sport - or is it? Retrieved from <https://www.dw.com/en/esports-is-not-a-real-sport-or-is-it/a-50187845>
- Devellis, R. (1991). *Scale development. Theory and applications. (Applied social research methods)*. Series volume 26. Newbury Park, London: Sage Publications.
- Doll, W. J., Xia, W., & Torkzadeh, G. (1994). A Confirmatory Factor Analysis of the End-User Computing Satisfaction Instrument. *MIS Quarterly*, Vol. 12(2), pp. 259-274
- Donlan, L. (2014). An empirical assessment of factors affecting the brand-building effectiveness of sponsorship. *Sport, Business and Management: An International Journal*, Vol. 4(1), pp. 6-25.
- Elasri Ejjaberi, A., Rodríguez Rodríguez, S., & Aparicio Chueca, M. (2020). Effect of eSport sponsorship on brands: an empirical study applied to youth. *Journal of Physical Education and Sport*, vol. 20(2), pp. 852-861.
- Ferkins, L. and Garland, R. (2006). Sport sponsorship. In S. Leberman and C. Collins

- (Eds.), *Sport Business Management in New Zealand* (pp. 274-297). Sydney: Thomson Publishing & Dunmore Press.
- Finch, D. J., O'Reilly, N., Abeza, G., Clark, B., & Legg, D. (Eds.). (2019). *Implications and Impacts of eSports on Business and Society: Emerging Research and Opportunities*. Hershey, PA: IGI Global.
- Fleck, N. D., & Quester, P. (2007). Birds of a feather flock together... definition, role and measure of congruence: An application to sponsorship. *Psychology & Marketing*, Vol. 24 (11), pp. 975-1000.
- Fornell, C., & Larcker, D. F. (1981). Evaluating structural equation models with unobservable variables and measurement error. *Journal of marketing research*, Vol. 18(1), pp. 39-50.
- García, J., & Murillo, C. (2020). Sports video games participation: what can we learn for esports? *Sport, Business and Management: An International Journal*, Vol. 10(2), pp.169-185.
- Green Man Gaming. (2020). Esports-The money game. Retrieved from <https://www.greenmangaming.com/zh/the-money-game/>
- Grohs, R. (2016). Drivers of brand image improvement in sports-event sponsorship. *International Journal of Advertising*, Vol. 35(3), pp. 391-420.
- Grohs, R., & Reisinger, H. (2005). Image transfer in sports sponsorships: an assessment of moderating effects. *International Journal of Sports Marketing and Sponsorship*, Vol. 7(1), pp. 36–42.
- Grohs, R., & Reisinger, H. (2014). Sponsorship effects on brand image: The role of exposure and activity involvement. *Journal of Business Research*, Vol. 67(5), pp. 1018–1025.
- Gwinner, K. (1997). A model of image creation and image transfer in event sponsorship. *International marketing review*, Vol. 14(3), pp. 145-158.
- Gwinner, K. P., Larson, B. V., & Swanson, S. R. (2009). Image transfer in corporate event sponsorship: Assessing the impact of team identification and event-sponsor fit. *International Journal of Management and Marketing Research*, Vol. 2(1), pp. 1-15.
- Gwinner, K., & Swanson, S. R. (2003). A model of fan identification: Antecedents and sponsorship outcomes. *Journal of Services Marketing*, Vol. 17(3), pp. 275-294.
- Hair, J. F., Black, W. C., Babin, B. J., & Anderson, R. E. (2009). *Multivariate Data*

- Analysis*. 7<sup>th</sup> Edition. Upper Saddle River, NJ: Prentice-Hall.
- Hallmann, K., & Giel, T. (2018). eSports—Competitive sports or recreational activity? *Sport management review*, Vol. 21(1), pp.14-20.
- Hamari, J. and Sjöblom, M. (2017). What is eSports and why do people watch it? *Internet Research*, Vol. 27(2), pp. 211-232.
- Harvey, B. (2001). Measuring the effects of sponsorships. *Journal of advertising research*, Vol. 41(1), pp. 59-59.
- Holden, J.T., Kaburakis, A. and Rodenberg, R. (2017). The future is now: esports policy considerations and potential litigation. *Journal of Legal Aspects of Sport*, Vol. 27(1), pp. 46-78.
- Howard, D.R. & Crompton, J. (1995). *Financing Sport*. Morgantown, WV: Fitness Information Technology.
- Hu, L., & Bentler, P. M. (1999). Cutoff criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives. *Structural Equation Modeling*, Vol. 6(1), pp. 1-55.
- IEG, LLC. (2017). *IEG's guide for sponsorship*. Retrieved from <https://www.sponsorship.com/ieg/files/59/59ada496-cd2c-4ac2-9382-060d86fcdbc4.pdf>
- IEG, LLC. (2018). *What sponsors want & where dollars will go in 2018*. Retrieved from <http://www.sponsorship.com/IEG/files/f3/f3cfac41-2983-49be-8df6-3546345e27de.pdf>
- IEG, LLC. (2019). *IEG Esports sector update 2018*. Retrieved from <https://www.sponsorship.com/Latest-Thinking/Sponsorship-Infographics/Esports-Sector-Update-2018.aspx>
- Influencer Marketing Hub. (2020). *Top 10 Most Anticipated eSports Events for 2019*. Retrieved from <https://influencermarketinghub.com/top-10-esports-events-2019/>
- Jenny, S. E., Manning, R. D., Keiper, M. C., & Olich, T. W. (2017). Virtual(ly) athletes: Where eSports fit within the definition of “Sport”. *Quest*, Vol. 69(1), pp. 1–18.
- Jonasson, K., & Thiborg, J. (2010). Electronic sport and its impact on future sport. *Sport in society*, Vol. 13(2), pp. 287-299.
- Liu, H., Kim, K. H., Choi, Y. K., Kim, S. J., & Peng, S. (2015). Sports sponsorship

- effects on customer equity: an Asian market application. *International Journal of Advertising*, Vol. 34(2), pp. 307-326.
- Keller, K. L. (1998), *Strategic Brand Management: building, measuring, and managing brand equity*, Prentice-Hall, New Jersey.
- Keller, K. L. (1993). Measuring, and Managing Customer-Based Brand Equity. *Journal of Marketing*, Vol. 57(1), pp. 1-22.
- Keller, K. L. (2001). *Building customer-based brand equity: A blueprint for creating strong brands* (pp. 3-27). Cambridge, MA: Marketing Science Institute.
- Kim, Y., Lee, H. W., Magnusen, M. J., & Kim, M. (2015). Factors influencing sponsorship effectiveness: A meta-analytic review and research synthesis. *Journal of Sport Management*, Vol. 29(4), pp. 408-425.
- Kirk, J., & Miller, M. L. (1986). *Reliability and validity in qualitative research*. Beverly Hills: Sage Publications.
- Ko, Y. J., Kim, K., Claussen, C. L., & Kim, T. H. (2008). The effects of sport involvement, sponsor awareness and corporate image on intention to purchase sponsors' products. *International Journal of Sports Marketing & Sponsorship*, Vol. 9(2), pp.79-94.
- Ko, Y. J., Chang, Y., Park, C., & Herbst, F. (2017). Determinants of consumer attitude toward corporate sponsors: A comparison between a profit and nonprofit sport event sponsorship. *Journal of Consumer Behaviour*, Vol. 16(2), pp. 176-186.
- Koo, G. Y., Quarterman, J., & Flynn, L. (2006). Effect of perceived sport event and sponsor image fit on consumers' cognition, affect, and behavioral intentions. *Sport Marketing Quarterly*, Vol. 15(2), pp. 80-90.
- Koo, J., & Lee, Y. (2019). Sponsor-event congruence effects: The moderating role of sport involvement and mediating role of sponsor attitudes. *Sport Management Review*, Vol. 22(2), pp. 222-234.
- Koronios, K., Dimitropoulos, P., Travlos, A., Douvis, I., & Ratten, V. (2020). Online technologies and sports: A new era for sponsorship. *The Journal of High Technology Management Research*, Vol. 31(1), pp.1-10.
- Krabbe, P. (2016). *The measurement of health and health status: concepts, methods and applications from a multidisciplinary perspective*. Academic Press.
- Lee, M. S., Sandler, D., & Shani, D. (1997). Attitudinal constructs towards sponsorship. Scale development using three global sporting events.

*International Marketing Review*, Vol. 14 (3), pp. 159-169.

- Liu, H., Kim, K. H., Choi, Y. K., Kim, S. J., & Peng, S. (2015). Sports sponsorship effects on customer equity: an Asian market application. *International Journal of Advertising*, Vol. 34(2), pp. 307-326.
- Long, A., Drabicky, N., & Rhodes, H. (2018). *The emergence of esports & the advertising opportunities within the ecosystem*. (PMG report). Retrieved from <https://www.pmg.com/wp-content/uploads/2018/06/eSports-Marketing-PMG-Whitepaper.pdf>
- Maanda, P. M., Abratt, R., & Mingione, M. (2020). The Influence of Sport Sponsorship on Brand Equity in South Africa. *Journal of Promotion Management*, pp. 1-24.
- Martensen, A., Grønholdt, L., Bendtsen, L., & Jensen, M. J. (2007). Application of a model for the effectiveness of event marketing. *Journal of advertising research*, Vol. 47(3), pp. 283-301.
- McDonald, R. P., & Ho, M. R. (2002). Principles and practice in reporting structural equation analysis. *Psychological methods*, Vol. 7, pp. 64-82.
- McDaniel, S. R. (1999). An investigation of match-up effects in sport sponsorship advertising: The implications of consumer advertising schemas. *Psychology & Marketing*, Vol. 16(2), pp. 163-184.
- McDonald C., (1991). Sponsorship and the Image of the Sponsor. *European Journal of Marketing*, Vol. 25(11), pp. 31 – 38.
- Meenaghan, J.A. (1983). Commercial sponsorship. *European Journal of Marketing*, Vol. 7(7), pp. 5–73.
- Meenaghan, T. (1991). The role of sponsorship in the marketing communications mix. *International journal of advertising*, Vol. 10(1), pp. 35-47.
- Meenaghan, T. (2001). Understanding sponsorship effects. *Psychology & Marketing*, Vol. 18(2), pp. 95-122.
- Meenaghan, T., McLoughlin, D., & McCormack, A. (2013). New challenges in sponsorship evaluation actors, new media, and the context of praxis. *Psychology & Marketing*, Vol. 30(5), pp. 444-460.
- Newzoo (2017a). *The Taiwanese gamer 2017*. Retrieved from <https://newzoo.com/insights/infographics/the-taiwanese-gamer-2017/>
- Newzoo (2017b). *Newzoo Global Esports Market Report 2017*. Retrieved from <https://newzoo.com/products/reports/global-esports-market-report/>

- Newzoo (2018). *Taiwan Games Market 2018*. Retrieved from <https://newzoo.com/insights/infographics/taiwan-games-market-2018/>
- Newzoo (2019). *Esports leagues: one of many opportunities for brands*. Retrieved from <https://newzoo.com/insights/trend-reports/free-report-esports-leagues-one-of-many-opportunities-for-brands/>
- Newzoo (2020). *Newzoo Global Esports Market Report 2020*. Retrieved from <https://newzoo.com/insights/trend-reports/newzoo-global-esports-market-report-2020-light-version/>
- Neijens, P. C., Smit, E. G., & Moorman, M. (2009). Taking up an event: Brand image transfer during the 2006 FIFA World Cup. *International Journal of Market Research*, Vol. 51(5), pp. 579-591.
- Nunnally, J. C., & Bernstein, I. H. (1994). *Psychometric Theory*. New York, NY: McGraw-Hill Publishing Company.
- Olson, E. L. (2010). Does sponsorship work in the same way in different sponsorship contexts. *European Journal of Marketing*, Vol. 44, pp. 180-199.
- Papadimitriou, D., Kaplanidou, K. K., & Papacharalampous, N. (2016). Sport event-sponsor fit and its effects on sponsor purchase intentions: A non-consumer perspective among athletes, volunteers and spectators. *Journal of Business & Industrial Marketing*, Vol. 31(2), pp.247-259.
- Reitman, J. G., Anderson-Coto, M. J., Wu, M., Lee, J. S., & Steinkuehler, C. (2020). Esports research: A literature review. *Games and Culture*, Vol. 15(1), pp. 32-50.
- Rodgers, S. (2003). The effects of sponsor relevance on consumer reactions to Internet sponsorships. *Journal of Advertising*, Vol. 32, pp. 67-76.
- Shin, H., Lee, H., & Perdue, R. R. (2018). The congruity effects of commercial brand sponsorship in a regional event. *Tourism Management*, Vol. 67, pp. 168-179.
- Speed, R., & Thompson, P. (2000). Determinants of sports sponsorship response. *Journal of the academy of marketing science*, Vol. 28(2), pp. 226-238.
- Smith, G. (2004). Brand image transfer through sponsorship: A consumer learning perspective. *Journal of marketing management*, Vol. 20(3-4), pp. 457-474.
- The Nielson Company, LLC. (2019). *Esports playbook for brands 2019*. Retrieved from

<https://www.nielsen.com/wp-content/uploads/sites/3/2019/05/esports-playbook-for-brands-2019.pdf>

- Theofilou, A., Ventoura-Neokosmidi, Z., & Neokosmidis, I. (2014). Measuring sponsorship effects on consumer purchasing intentions. *Oxford Journal: An International Journal of Business & Economics*, Vol. 4(1).
- Verizon Media (2017). *Survey of Taiwanese gamers*. Retrieved from <https://yahoo-emarketing.tumblr.com/post/163510930641/2017game>
- Wagner, M. G. (2006, June). *On the Scientific Relevance of eSports*. In proceeding of the 2006 International Conference on Internet Computing and Conference on Computer Game Development, pp. 437-442.
- Weston, R., & Gore, P. A., Jr (2006). A brief guide to structural equation modeling. *The Counseling Psychologist*, Vol. 34, pp. 719–751.
- Walliser, B. (2003). An international review of sponsorship research: extension and update. *International journal of advertising*, Vol. 22(1), pp. 5-40.
- Yakimenko, S. (2020). *The most popular esports tournaments of 2019*. Retrieved from <https://escharts.com/blog/most-popular-tournaments-2019>
- Yoo, B., & Donthu, N. (2001). Developing and validating a multidimensional consumer-based brand equity scale. *Journal of business research*, Vol. 52(1), pp. 1-14.
- Zaharia, N., Biscaia, R., Gray, D., & Stotlar, D. (2016). No more “good” intentions: Purchase behaviors in sponsorship. *Journal of Sport Management*, Vol. 30(2), pp. 162-175
- Zaichkowsky, J. L. (1985). Measuring the involvement construct. *Journal of consumer research*, Vol. 12(3), pp. 341-352.

**Appendix- Questionnaire** (It was translated to Chinese in the study)

The goal of this survey is to learn the factors that impact the effectiveness of eSports Sponsorship on brand association and purchase intent. It will take approximately 10 minutes to complete it. The results of this survey will be used for Munich Business School research purposes. The survey is composed of 4 sections. First of all, please select one of the sponsorship projects that you're familiar with and answer the questions of sec. 2-3 based on it. Thank you for your time and support.

The number of sponsorship project which I choose is \_\_\_\_\_

Number	Brand (Sponsor)	eSports events	Date
1	Mastercard	League of Legends World Championship	Oct 2-Nov 10, 2019
2	Alienware	League of Legends World Championship	Oct 2-Nov 10, 2019
3	Louis Vutton	League of Legends World Championship	Oct 2-Nov 10, 2019
4	Red Bull	League of Legends World Championship	Oct 2-Nov 10, 2019
5	Oppo	League of Legends World Championship	Oct 2-Nov 10, 2019
6	AXE	League of Legends World Championship	Oct 2-Nov 10, 2019
7	Nvidia	DOTA 2 The International	Aug 15 - 25, 2019
8	Secretlab	DOTA 2 The International	Aug 15 - 25, 2019
9	Intel	IEM Katowice	Feb 28 - Mar 3, 2019
10	Vodafone	IEM Katowice	Feb 28 - Mar 3, 2019
11	Predator	IEM Katowice	Feb 28 - Mar 3, 2019

12	HyperX	IEM Katowice	Feb 28 - Mar 3, 2019
13	HyperX	PUBG Global Championship	Nov 8-24, 2019
14	Nvidia	PUBG Global Championship	Nov 8-24, 2019
15	Zowie	PUBG Global Championship	Nov 8-24, 2019
16	Coca-Cola	The Overwatch League	Feb 14 - Aug 25, 2019
17	T-Mobile	The Overwatch League	Feb 14 - Aug 25, 2019
18	StateFarm	The Overwatch League	Feb 14 - Aug 25, 2019
19	Xfinity	The Overwatch League	Feb 14 - Aug 25, 2019

### Section 1

Please select the answer that describe the most of your behavior.

- How many hours do you spend playing video games per day?  
 Below 1 hour    1-2 hours    2-4 hours    Above 4 hours
- How many hours of eSports or online gaming stream do you watch per week?  
 1-2 hours    3-4 hours    5-6 hours    7-8 hours    9-10 hours  
 11 hours or above
- Do you follow the latest eSports news or stories?  
 Yes    No

### Section 2

Please rate how do you feel with each of these statements based on the sponsorship project that you chose in the beginning

	1	2	3	4	5
1. I like this company (sponsor).	<input type="checkbox"/>				
2. This company (sponsor) has a good reputation.	<input type="checkbox"/>				
3. I can highly recommend this company (sponsor) to others.	<input type="checkbox"/>				
4. I think the company (sponsor) has a positive profile.	<input type="checkbox"/>				
5. This company sponsors many different eSports events.	<input type="checkbox"/>				

- |  |                          |                          |                          |                          |                          |
|--|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| 6. It is common to see this company sponsoring eSports events.   | <input type="checkbox"/> |
| 7. I expect this company to sponsor major eSports events.  | <input type="checkbox"/> |
| 8. The main reason why this company (sponsor) is involved in this event is because they believe this event deserves support. | <input type="checkbox"/> |
| 9. This company (sponsor) is likely to have the best interests of eSports at heart.  | <input type="checkbox"/> |
| 10. This sponsor would probably support the event even if it had a much lower profile.                                       | <input type="checkbox"/> |
| 11. I am a strong supporter of this event.   | <input type="checkbox"/> |
| 12. I enjoy watching/attending this event.   | <input type="checkbox"/> |
| 13. This event is important to me.   | <input type="checkbox"/> |
| 14. I will be pleased to recommend this event to others.   | <input type="checkbox"/> |
| 15. This is a significant eSports event.   | <input type="checkbox"/> |
| 16. People in my community think highly of this event.   | <input type="checkbox"/> |
| 17. This event is considered to be one of the best eSports events.   | <input type="checkbox"/> |
| 18. There is a logical connection between the event and the sponsor.   | <input type="checkbox"/> |
| 19. The image of the event and the image of the sponsor are similar.   | <input type="checkbox"/> |
| 20. The sponsor and the event fit together well.   | <input type="checkbox"/> |
| 21. The company and the event stand for similar things.  | <input type="checkbox"/> |
| 22. It makes sense to me that this company sponsors this event.  | <input type="checkbox"/> |
| 23. Playing video games is important for me.   | <input type="checkbox"/> |
| 24. Watching eSports tournament is one of the most enjoyable things that I do.   | <input type="checkbox"/> |
| 25. I like to engage in any types of eSports activities.   | <input type="checkbox"/> |
| 26. For me, playing video games is exciting.   | <input type="checkbox"/> |

Note: 1: strongly disagree 2: disagree 3: neutral 4: agree 5: strongly agree

### Section 3

After participating this sponsorship event, what do you think of following statements?

Please rate it based on the sponsorship you chose in the beginning.

- |  | 1                        | 2                        | 3                        | 4                        | 5                        |
|--|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| 1. This brand (sponsor) is different from competing brands.                                | <input type="checkbox"/> |
| 2. This brand (sponsor) has a personality.   | <input type="checkbox"/> |
| 3. I have a clearer image of the type of person who would use the brand (sponsor).         | <input type="checkbox"/> |
| 4. Some characteristics of the brand (sponsor)'s product come to my mind quickly           | <input type="checkbox"/> |
| 5. I will buy the product of this sponsor.   | <input type="checkbox"/> |
| 6. When I have the need, the company (sponsor)'s product will be one of my considerations. | <input type="checkbox"/> |

7. When choosing brands, I choose those that sponsor the event.

Note:1: strongly disagree 2: disagree 3: neutral 4: agree 5: strongly agree

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#### Section 4

This is a section of demographic data. Don't worry, this survey is completely anonymous, and your information will be remaining confidential.

1. Gender

Female  Male  Prefer not to say

2. Age

Under 18 years  19-24 years  25-34 years  35-44 years  45-54 years  
 55-70 years  Above 70 years

3. Education

Less than high school  High school diploma  Bachelor's degree  
 Master's degree  PhD

4. Family

Single  Married

5. Yearly Household income

No income  Under 10,000 TWD  10,001~30,000 TWD  
 30,001~50,000 TWD  Above 50,001TWD