

The impact of sport sponsorship on aspects of consumer-based brand equity
A case of Formula One World Championship

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Master's Thesis
June 2020

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ABSTRACT

Over the past three decades the prevalence of sport sponsorship increased tremendously, and its existence became inseparable from every globally recognisable sport category, especially from motor racing. In the current environment of motorsports, the teams participating in automobile racing are heavily depending on sponsorships when it comes to the construction of their budgets.

Recently, motorsports have been increasingly popular, attracting a new wave of fans all over the globe that become increasingly invested in racing. Previous research on the topic of sponsorships and motorsports have looked into concepts such as brand attitude, brand recall, brand associations, purchase intentions and related concepts. There has been limited research done that focuses on the multiple-brands aspect related to motorsports, as well as looks into the concepts of fan identification and activity involvement. Due to the increasing popularity of motorsports, those two concepts can bring an interesting perspective concerning the followers of those sports and their responses to sponsoring brands. Additionally, in relation to the consumers and their relationship with the sponsoring brands, an important role is played by what is called by many a consumer-based brand equity, and especially three different aspects of it - brand recall, brand awareness and brand loyalty, as the relationship between sponsorship and these three concepts has been discussed by many scholars in the field. Looking into an environment that not only heavily depends on money from sponsorship, but also attracts many different nationalities could increase the knowledge about effects of sport sponsorship existence on other aspects. Therefore, this research is set to explore the potential relationships between activity involvement, fan identification and three aspects of brand equity - namely brand recall, brand awareness and brand loyalty, and as an example it will use the Formula One World Championship. An online survey was conducted among fans of Formula One to investigate these relationships. Statistical analysis of Chi-Square test of independence, regression analysis and independent t-test were conducted to establish the influence of fan identification and activity involvement on brand recall, brand awareness and brand loyalty. The analysis failed to disprove or approve the existence of a relationship between fan identification, activity involvement and brand recall. However, a significant relationship between activity involvement and brand awareness, as well as fan identification and brand loyalty were found.

KEYWORDS: Formula One, brand equity, sport sponsorship, activity involvement, fan identification

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1. Introduction

1.1 Background

In the past few decades, sport sponsorship became a significant marketing tool for many firms, from sponsoring small local teams to millions of dollars of investments in major sports events (Tripodi et al., 2003; Smith et al., 2016). Sport has been an appealing sector for sponsorship and similar techniques used by companies, due to its strong emotional connections with the ones who watch it, as well as the broad audience reach it brings (Koronios et al., 2016). In the context of sport, sponsorship is usually defined as a way for the companies to build brand equity (Quester & Farrelly, 1998; Smith et al., 2016); gain publicity (Koronios et al., 2016); communicate desired brand personality (Grohs & Reisinger, 2014); promote brand identity (Grohs & Reisinger, 2005) and influence customers purchasing behaviour (Bachleda, Fakhar & Elouazzani, 2016).

What exactly is sponsorship in itself? Scholars such as Cheong, Pyun and Leng (2019) point out that as in opposition to regular advertising, which is a two-way communication process between the advertiser and consumer, sponsorship is a three-way communication process: between the sponsor, property and the consumer. Despite a growing body of research on the topic of sponsorship, no one concise definition has been widely accepted by many. As written by Lee, Sandler and Shani (1997) the term “sponsorship” within the literature has been used to describe a diversity of arrangements between: companies that provide some sort of resource (for example money), and organisations of specific events that benefit from those resources but in return provide commercial gains towards the sponsoring entity. What has originated as philanthropic activity by CEO’s go big companies, fast enough became a highly integrated marketing tool with great importance to both sponsor and sponsored entity (Daellenbach, Davies, & Ashill, 2006). As they noted, for non-profit organisations and some other sponsorships became a crucial way to obtain income. One of the biggest advantages of sponsorship over other forms of advertising is, as written by Lardinoit and Quester (2001) the higher acceptance of it by public. This might be due to the fact that one of the most distinctive features of sponsorship is, as described by Mason (2005) the disguised attempt to persuade the consumer, as opposed to regular forms of advertising where the attempt to persuade is direct and overt. The consumers might be more accepting of it because they do not see the messages as overly intrusive, and in the case of sport sponsorship it also becomes a part of their leisure time by soliciting positive emotional attachment (Mason, 2005).

The rise of the sport sponsorship as we know now despite going back to the early Greek and Roman times can really be pinpointed to the increase in the television coverage of sports in the early 1950s (Furlong, 1994). As written by Grohs, Wagner and Vsetecka (2004) till the beginning of 1990s, what has been attributed as one of the most important objective of sport sponsorship was the media coverage that came with televised sports events. Afterwards this view has been shifted, pointing out brand awareness and boosting company image as one of the main interests of why brands get involved in sport sponsorship. What makes sports different than other areas where sponsorship might occur, is the fact that as opposed to other types of entertainment sports evoke high levels of emotional attachment and identification (Sutton et al., 1997). As

the authors write, the emotional attachment and identification can be crucial to perceive sponsorship messages by consumers, since it might minimise the effects of team performance. These two statements have been also supported by other researchers such as Koronios et al. (2016) and Smith et al. (2016). As an example, in the case of football Herrmann, Kacha and Derbaix (2016) write that football fans their team of choice is the primary object of identification, and what is sometimes referred to as the “true football fans” stick with their team despite if they lose or win. Because of that, the authors state that fans can process more sponsorship information as opposed to non-fans. Among many other things, it allows the brands to communicate desired brand personality to the targeted audience through sport sponsorship, by using the emotions and feelings that sport events evoke, as well as the prestige and status attributed to certain types of those events (Grohs & Reisinger, 2014). But despite the incentive to appeal to the consumer by the sponsor, sponsorships are on the first line a relationship between the sponsor and sponsored entity, which is beneficent towards the entity in terms of resources provided.

In that case, sport sponsorship has been particularly interesting in the context of motorsport. As pointed by different authors, in the high-rank racing series such as NASCAR(The National Association for Stock Car Auto Racing) and Formula One sponsorships are crucial for the operation of the series and teams that partake in them (Levin, Joiner & Cameron, 2001; Donahay & Rosenberger III, 2007). Unlike NASCAR, which is an American racing series with races based in the US, Formula One (F1) is the highest class of single-seater auto racing that holds races in 22 different countries in the season 2020, but with the strongest following among the European audiences (11 out of the 20 countries mentioned in the top 20 markets by F1 are from Europe) (F1, January 2019). Donahay and Rosenberger III (2007) have pointed out that not only the F1 teams rely up to 85% of their income on the sponsorships, but they can have up to 20 different sponsors visible on their car to achieve funds for their starts. Commercial sponsorships in Formula One emerged in the late 1960s as a way to fund participation in the sport after supplier companies (such as oil and tyre suppliers) posed a threat to the teams to charge for their products that were essential to racing (Mattocks, 2019). They also point out that different placements of the sponsorship’s logos cost differently, with the principal team sponsors receiving the most prominent spaces on their cars to showcase their brands, but also having to bring the biggest amount of money to the teams’ budgets. Because of this, from the consumers perspective, the cars turn into “rolling-billboards” (Levin, Joiner & Cameron, 2001), which over the years became an integral and representative part of the sport not only because of the monetary, but visual aspect as well, with many iconic liveries based around the sponsors being the most known among the fans, such as McLaren-Marlboro, JPS Lotus, NART Ferrari and more (Mitchell, 2013). In season of 2018, F1 has reached 490.2 million viewers worldwide, the highest number since 2013, and it noted a significant growth from the season of 2018 (Season 2017 - 352.3 million global viewers) (Gough, 2019).

Based on the global presence of this racing category, as well as the significant position of sponsorship in the sport, the consumers indulging in motorsports are exposed to numbers of stimuli, such as on-event sponsorship exposure, televised sponsorship exposure, additional advertising and more. These

stimuli might influence concepts most frequently pointed out in the previous research, such as brand recall, brand awareness and brand loyalty.

These three terms are what is usually referred to by different scholars as brand equity. In the particular case of this research, the term of customer-based brand equity (CBBE) plays a crucial role. What Keller (1993, p. 2) defines as CBBE is the “differential effect of brand knowledge on consumer response to the marketing of the brand”. According to the author, customer-based brand equity occurs when the customer is not only familiar with a certain brand, but also holds some strong and unique brand associations in their memory. Authors such as Aaker (1992, 1996) point brand recall, awareness and loyalty as core dimensions of brand equity. The first one, brand recall, refers to the ability of a consumer to retrieve a sports sponsor’s brand from memory when their product or service is mentioned (Bachleda, Fakhar & Elouazzani, 2016). The second one, brand awareness, refers simply to knowing the sponsors (Hoyer & Brown, 1990). The last one, brand loyalty, refers to being loyal to products services of certain brands, in this case due to consumers high involvement in sports, fan identification and fanatical consumption, where involvement reflects to an ongoing interest in a specific sport, which can have an impact on consumers perception of sponsorship (Bachleda, Fakhar & Elouazzani, 2016; Donahay & Rosenberger III, 2007; Biscaia et al., 2013; Levin, Joiner & Cameron, 2001). Although it has been supported by some authors that success of a team can also have an impact on the strength of brand (Bauer, Sauer & Schmidt 2004) as well as the level of fan identification (Boyle & Magnusson, 2007), authors such as Herrmann, Kacha and Derbaix (2016) argue that success is not always the most important for fans.

Fan identification and fanatical consumption can hold a crucial role in the processing of the sponsorship by fans, as it can influence their perception and attitude towards the brand (Donahay & Rosenberger III, 2007). Stevens and Rosenberger III (2012) define fan identification as emotional involvement and personal commitment with a sports team. Those authors argue that the ability to attract a fan base with a sense of community is critical within the sports environment. Stevens and Rosenberger III also identify the instance of the “die-hard fans” who perceive their personal commitment towards the sport as an important part of who they are. Additionally, a key role is played by the concept of activity involvement, that can be attributed to genuine interests and enthusiasm in relation to certain activities (Zaichowsky 1985; Grohs & Reisinger, 2014). As argued by some, the more connected the fans feel to the team of their choice, the more immune they might be to potentially negative information about their sponsors (Peluso, Rizzo & Pino, 2019), and more patronising they might be towards their products (Herrmann, Kacha & Derbaix, 2016). As argued by Gwinner and Swanson (2003) it might be due to the fact that in many cases the sponsors can be identified as a crucial partner of the team and therefore are accepted by the fans. This is not to say that such thing happens immediately, as the sponsors must usually establish positive impressions for the fans to consider the sponsor trustworthy. For example, Levin, Beasley and Gilson (2008) found out that if a brand decides to stop sponsoring a certain team (in the case of their research a team participating in NASCAR racing) it is important to communicate it to the fans, otherwise it might seriously harm the brand’s image in

the eyes of the fanbase. It can therefore be assumed that fan identification and activity involvement can influence the relationship between the evaluation of sponsorship by the consumers and the three key concepts: brand recall, brand awareness and brand loyalty.

Despite the ever-growing body of research on sport sponsorships, authors such as Bronczyk and Breuer (2019) point out that there has been limited research investigating the effects of sponsorship with multiple sponsoring brands present at the same time. In the context of F1 sponsorship, the existing literature mainly focuses either on the tobacco (and alcohol) companies that since 2005 have been banned from advertising in F1 (Braham & Britton, 2012), as well as the event sponsorship (which here means the sponsoring of an actual Grand Prix, not a team or driver). According to Rosenberger III and Donahay (2008) the research in the topic of actual F1 team sponsorships is limited, and an additional incentive to look into this topic might be the fact that as mentioned by Hobbs (2018) the place of the now banned tobacco companies has been taken by a mix of luxury brands and high-street firms, which creates a feeling of accessibility to an average consumer. For example, instead of big tobacco establishments such as Philip Morris' Marlboro or R. J. Reynolds Tobacco Company Camel cigarettes, now brands such as Red Bull, Puma, Jack and Jones, as well as luxury brand such as Rolex play the big parts in the sport. That means that the scientific gap in the knowledge between racing sport sponsorships as well as factors like fan identification should be addressed in the future research to examine the relationship established in such settings. In terms of practical relevance, such research could provide implications not only for the sponsoring businesses, but also the Formula One (and other) teams that seek such brands to construct their budgets in the most optimal way possible. The managerial implications of the research can suggest possible ways for the teams and sponsors to build their relationship with consumers to get the best results and elevate the sport as well as sponsoring brands while having the most appeal to the audiences. When it comes to societal relevance, this research aims to get an insight into the emotional connection between people and their passions, and how this relationship might impact their behaviours and thoughts.

Looking back at the lack of exploration in the research addressed before, Formula One as a sport category seems suitable to investigate in this context due to the availability of multiple sponsoring brands visible on the cars, being the team sponsors, not just sponsoring a one single event, but being visible throughout the entire season as in opposition to the previously made research. Formula One is also growing in popularity, especially within the younger audiences (F1, January 2019) and tries to attract new fans towards the sport. Following this, the basis of this research project is the research question of:

RQ: To what extent does activity involvement and fan identification of Formula 1 influence the brand recall, brand awareness and brand loyalty of brands involved in F1 sponsorships?

1.2 Research questions, objectives and hypothesis

For the purpose of this research, the author of this project established the following research question and research objectives. The hypothesis as well as their link with theory will be presented in the second chapter of this project.

Research Question:

To what extent does activity involvement and fan identification of Formula 1 influence the brand recall, brand awareness and brand loyalty of brands involved in F1 sponsorships?

Research objectives:

Objective a: Investigate if activity involvement in Formula One has an impact on the brand recall, brand awareness and brand loyalty of brands that are involved in sponsoring a Formula One team

Objective b: Investigate if fan identification in Formula One has an impact on the brand recall, brand awareness and brand loyalty of brands that are involved in sponsoring a Formula One team

1.3 Research organisation

This research is divided in five chapters. The first chapter is the introduction, providing a background information on the research with an introduction to the research question, hypotheses and objectives. The second chapter is the theoretical framework, where the main concepts concerning sport sponsorship, activity involvement, fan identification and Formula One to provide solid basics for the remaining parts of this research and to showcase a direct link between the hypotheses and the already established theory. The third chapter is the methodology section, providing information about the method used for this research, the research design such as the approach, data collection methods and data analysis procedures. The fourth chapter will provide the results and analysis of the data obtained for this project and will be shown in terms of the quantitative standards with the use of tables and statistics. The last chapter is the conclusion and discussion section, providing insights into how the research contributed to the research area, the limitations of this research as well as will present the final conclusion to this research, answering the main research question of this project based on the results of the conducted investigation.

2. Theoretical background

2.1 Theoretical background introduction

The purpose of the following chapter is to discuss the theoretical background of this research project. Several different authors outlooks on sponsorship, brand equity, fan identification, activity involvement as well as Formula One will be provided to establish a good base for the following parts of this study.

This chapter is divided into four parts: Sponsorship and sport sponsorship, Brand equity, Activity involvement and fan identification and Formula One. The last subchapter was added to provide the basic necessary knowledge about the sport in question, given that the data analysis is concerning the fans and sponsorships of this particular world championship, therefore and introduction to the sport as well as the sponsorship aspect of it were important to establish before the following chapters of this project. The literature review discusses aspects of sponsorship definition, measures, objectives and exposure; brand equity and specifically brand recall, brand awareness and brand loyalty and lastly the before mentioned Formula One, all in attempt to provide substantial background understanding behind the hypotheses.

2.2 Formula One

2.2.1 Formula One's basic principles and brief history

Formula One is the highest rank of single seater racing governed by the Fédération Internationale de l'Automobile (FIA) and one of the most popular sports on the planet (Noble & Hughes, 2004). The 'formula' in the name of Formula One (F1) stands for the set of rules to which all participants and cars must apply in order to race in the championship (Williamson, no date). This racing category exists for over 70 years, and races in 21 different countries as of the season of 2019 (F1, no date). It includes 10 different racing teams and 20 different drivers that compete in the championship (F1, 2019). To explain the basic premise of the sport in simple words, those 10 different racing teams fight for the constructor's championship, while the 20 drivers fight in the drivers' championship for the title of the best driver of that season. In both cases they do so by acquiring a certain amount of points if they finish in the first 10 of each race (Noble & Hughes, 2004).

The first proper championship for the drivers has been introduced in the 1950s, and its outcome was based upon the results of seven different races: British, Swiss, Monaco Belgian, French and Italian GP, as well as Indianapolis 500, with the last one being an incentive to promote Grand Prix racing in Americas (Noble & Hughes, 2004). Till today many pinpoint Great Britain as the birthplace of Formula One, due to the first race of the championship being held at the Silverstone track in the 1950 (A brief history of Formula One - Photo Essays, no date). It was during the first decade of the championship running that F1 has seen, as argued by many, the best Grand Prix driver of all time, 7 times world champion Juan Manuel Fangio (Donaldson, 2015). After the 1958, the era of British dominance began in the sport, with British and Commonwealth drivers winning 9 driver's championships and 10 constructors titles between 1962 and 1973

(Williamson, no date).

During the 70s and 80s the cars were getting faster and slicker, but the increasing concern was the risk undertaken by the drivers - between the start of the championship in 1950 till nowadays 26 drivers have died as a result of incidents taking place during the Grand Prix weekends (Racing Elite, 2019). One of the most remarkable deaths in the history of F1 was of one of the most legendary drivers - Ayrton Senna, during the 1994 Italian GP at the Imola track. Even till today Ayrton Senna is one of the most remembered and cherished Formula One drivers, and his death during the 1994 Italian GP prompted many safety changes in the sport to make sure no more lives were taken (Donaldson, 2015). There have been many different drivers that were remarkable and made it into the Formula One hall of fame, but in the more recent times F1 has seen the rise of drivers such as Michael Schumacher (7 titles), Fernando Alonso (2 titles), Sebastian Vettel (4 titles) and most recently Lewis Hamilton, who has won 6 world championships with his team Mercedes AMG Petronas F1 (who won 6 consecutive constructors championships).

F1's popularity is continually on the rise (F1, 2020). The 2019 season of the championship attracted a global TV cumulative audience of 1.922bn, which was an increase of 9% from 2018 (F1, 2020). The top five markets by cumulative audience, according to the official Formula One website were: Brazil, Germany, Italy, UK and the Netherlands. Additionally, the numbers of users of F1's digital platforms such as Facebook, Twitter, Instagram and YouTube have been on the rise as well. This can be attributed to the takeover of Liberty Media as the governing F1 body, from the hands of Bernie Ecclestone, who had the ownership for over 4 decades and was incredibly strict with the media and behind the scenes of the sport (Noble & Hughes, 2004; BRIC-RC, 2019).

2.2.2 Formula One and sponsorship

In the first couple of the existence of the Formula One championship, commercial sponsorships were not allowed in the sport (Mattocks, 2019). The cars raced with their national colours on them: British teams with what is called "British racing green", Ferrari with the Italian red and so forth, and only had the manufacturers logo, usually on the front. The first logos that started to appear were the ones of the official tyre and oil suppliers, and they were usually placed on the overalls of the drivers. The governing body, FIA, was forced to change their stance on sponsorships during the 1968 season, as the BP and Shell, who were the fuel providers withdrew from the sport and Firestone, the tyre supplier, decided to charge for their products (Mattocks, 2019). That was the first time the commercial sponsorship was allowed in Formula One.

As mentioned by Quester and Farelly (1998) sponsorship first came around as a way for tobacco and alcohol companies to go around legal constraints that banned these types of products from regular advertising. This has been very much the case for Formula One, who was dominated by tobacco sponsorships from 1968 when Lotus introduced their Gold Leaf sponsorship till the end of the 2006 season (Noble & Hughes, 2004). From the season of 2007 onwards the tobacco companies are banned from sponsoring F1 teams (SportsPro, 2018). But despite their current ban, the tobacco sponsorships resulted in one of the most remembered car liveries to this day, including McLaren's and Ferrari's Marlboro ones, Lotus' John Player Special, Williams'

Rothmans and many more (Mattocks, 2019). Figure 2.2.2a and 2.2.2b showcase examples of those sponsorships.



Figure 2.2.2a: Ayrton Senna in McLaren MP4/4 1988 with Marlboro sponsorship



Figure 1.2.2b: Nigel Mansell in Williams FW14B 1992 with Camel sponsorship (credit Lat Images)

When it comes to the alcohol sponsorships, they are still existing in Formula One today. There has been a switch from regular products to the non-alcoholic beverages over the recent years (for example Heineken 0, Estrella Galicia 0.0 and so forth) but the companies are still very much present (Heineken is a sponsor of many of the round of the championship and F1 as a championship itself; till 2018 Martini was the main sponsor of Williams Racing). In the recent years companies from many different sectors decided to sponsor Formula One teams (Mattocks, 2019). The companies vary from oil companies (for example

Exxonmobil), to sports apparel (Puma sponsors teams such as Red Bull Racing and Scuderia Ferrari) to everyday food products (such as Coca Cola).

Authors such as Donahay and Rosenberger III (2007) note down that Formula One teams rely up to 85% of their income on the sponsorships. They are crucial for the operation of the teams, since otherwise they would not acquire such big budgets to run their operations. It is estimated that many teams spend around \$2.6 billion a year to participate and fight in the championship as of 2018 (Sylt, 2018). It is important to note down that 8 out of 10 teams in the F1 championship have a title sponsor in the name of the team (For example RED BULL Racing team; Alfa Romeo Racing ORLEN; Scuderia ALPHATAURI Honda etc.) (F1, 2020). As argued by Donahay and Rosenberger III (2007) different types of sponsorship cost different amount of money, with the most important sponsors not only paying the biggest amount of money, but also receiving the most important places on the car to showcase their logos. As shown, sponsorships are a crucial, integral part of Formula One. Not only in terms of separate team's business models, but also the races, F1 as an organisation and more.

2.3 Sport sponsorship

2.3.1 Sponsorship

In his work on commercial sponsorship, Meenaghan (1993, p. 9) roughly defines sponsorship as “the provision of assistance either financial or in kind to an activity by a commercial organisation for the purpose of achieving commercial objectives.” There have been many different sponsorship definitions throughout the literature, but many, according to the author, fail to cover the vast amount of activities and motives linked with sponsorship. For example, the earliest definition of sponsorship as found in Meenaghan (1991, p. 8) was the one made by the Council of the UK in 1971 and defined sponsorship as “a gift or payment in return for some facility or privilege which aims to provide publicity for the donor.” On the other hand, the definition of Cornwell (1995) as found in Johnston and Spais (2015, p. 297) identifies sponsorship as “the orchestration and implementation of marketing activities for the purpose of building and communicating an association to a sponsorship.” When it comes to the latter definition and some others provided by Meenaghan (1991), it is interesting to note the focus mainly on “activities” when it comes to sponsorship. In the recent years this view on sponsorship has shifted, with the increase in popularity of sponsorships of particular individuals, such as celebrities, athletes and more or sports teams. Additionally, many of those definitions do not encompass a very crucial part of sponsorship - mainly that at least two parties in this relationship benefit from each other. Cheong, Pyun and Leng (2019) note that sponsorship is a three-way communication process: between sponsor, the sponsored entity and the consumer. In this particular case both sponsor and the sponsored entity benefit from each other. The sponsored entity receives resources that can be substantial to their operation, and the sponsor receives an association, be it marketing, or media related in return. Based on this, the definition of sponsorship that reflects this relationship between those two the best is one that can be found in Lee, Sandler and Shani (1997, p. 161): “(Sponsorship is) *The provision of resources (e.g. money, people, equipment) by an organization directly to an event or activity in exchange for a direct association to*

the event or activity. The providing organization can then use this direct association to achieve either their corporate, marketing, or media objectives”.

Although this definition does not mention individuals as endorsers of sponsorship, it encompasses the best the crucial exchange of resources for association.

As explained by Marylyn and John Carrigan (1997) sponsorship has been around since the Greek and Roman times. During that period sponsorship was what can be considered a patronage by the leaders of community, for example emperors and kings, over sport as of way to provide entertainment to the public. Despite being around since the ancient times, sponsorship as a marketing tool emerged as a way to go around legal constrains that banned tobacco and alcohol companies from traditional ways of advertising (Quester & Farelly, 1998; Quester, 1997). As it has been noted by Quester (1997), social changes related to sports, cultural activities and leisure contributed to the growth of sponsorship as a marketing technique, due to its increased media coverage. Sponsorship started to gain more and more attention throughout the 1980s, and the most notable breakthrough for commercial sponsorship as a tool was the 1996 Atlanta Olympics that raised \$540 million in sponsorship from companies (Speed & Thompson, 2000). When it comes to other factors that contributed to the rise of sponsorship as we know of today, Meenaghan (1991) lists additionally the increase in costs of media advertising as well as inefficiencies in traditional media.

For the proper context regarding this research project, the concept of sport sponsorship will be investigated in the following part.

2.3.2 Sport sponsorship

Sport sponsorship is one of the most frequently used types of sponsorship nowadays (Tsiotsou, 2011). As sport sponsorship is the crucial theme in this research project, a proper understanding of it is required. As explained by Tsiotsou (2011) sport sponsorship implies sponsoring sport associations, athletes, teams, events, and sport facilities by brands and companies. Examples of that stretch from sponsoring football stadiums around the world (Emirates Stadium - the stadium of Arsenal London sponsored by Emirates Airlines); specific teams (Red Bull Racing - the Formula One team with its general sponsor Red Bull); top-tier athletes (Michael Jordan and his sponsoring by Nike, that resulted in creation of a subsidiary Nike brand, Jordan); entire football associations (Barclays as the sponsor of the British Football Association) or big international events (Coca Cola and their sponsorship over the Olympic Games). As mentioned within the literature, sport became an appalling sector for sponsorship due to its mass reach as well as emotional attachment for the ones who watch it (Koronios et al., 2016; Vale, Serra, Vale & Vieira, 2009). Due to this, the brands seek to use not only the strong loyalty of fans to evoke positive attitudes towards their sponsorship (Cheong, Pyun & Leng, 2019) but also the increased media coverage of those activities (Quester, 1997). As noted by Santomier (2008) the increase in new media technologies and their linkage with sport is currently another attractive feature for brands to seek associations with sport entities. Additionally, it is important to acknowledge that sponsorships are not only beneficial for the brands, but also the events, teams and athletes

they sponsor. For example, in terms of specific teams, sponsorships are a crucial way to construct their budgets. This is particularly evident in terms of motor racing, for example NASCAR and Formula One (Levin, Joiner & Cameron, 2001; Donahay & Rosenberger III, 2007). Due to the strong appeal to both of the sides (both the brands and the sponsored entity) authors such as Tsordia, Papadimitrou and Parganas (2018) note that sport sponsorship received a total of 70% of the total sponsorship expenditure in 2016.

2.3.3 Research area

Sponsorship can provide an opportunity for companies to showcase their uniqueness to the consumers, by giving them relevant information about products as well as engaging them (Cheong, Pyun & Leng, 2019). When it comes to sponsorship objectives, Grohs, Wagner and Vsetecka (2004) note that till the beginning of 1990s, media coverage was noted as the main objective of why companies engage in sponsorship. Currently the views have shifted, moving into being more directly associated with consumer behaviour. In their research, Gwinner and Bennett (2008) mention a few different objectives of sponsorship. For example, increasing brand awareness and brand image (also Cornwell, Roy & Steinard, 2001; Quester & Farelly, 1998; Smith et al., 2016; Grohs, 2016); establishing a competitive presence globally; boosting sales (Gwinner & Swanson, 2003). Additionally, authors such as Koronios et al. (2016) mention gaining publicity as one of the objectives of sponsorship. Grohs and Reisinger (2005; 2014) mention objectives such as communication of desired brand personality and promotion of brand identity. Bachleda, Fakhar and Elouazzani (2016) mention influencing customers purchasing behaviour. As noted by Donlan (2013) there has been an increase in focus on the brand building and development objectives. Bee and Dalakas (2015) mention generating a positive consumer response and building a customer base as one of the main objectives. It is important to note down that currently the objectives are more related to the relationship with the consumer, and it can be assumed that it has been pushed by the increasing consumers preference and the impact on their decision to purchase or re-purchase products or services made by sponsoring company (Vale, Serra, Vale & Vieira, 2009). As explained by Kelly et al. (2015) repeated exposure to sponsorship can act as an appropriate mechanism for simple brand names and logos, that cannot carry the same amount of in-depth information that some of the more complex advertising communications can. These authors also report that when it comes to sponsorship exposure, it is more likely to be the most effective in the first stages of promotion, when other elements of the marketing strategy might be more effective in the latter stages. Authors such as Huang and Sarigöllü (2012) as well as Schmidt and Eisend (2015) point out that repeated brand exposure influences consumers ability to recognise and recall the brand. Additionally, repeated brand exposure can increase consumers awareness and influence attitude towards the brand. Kelly et al. (2015) note down that exposure generates feelings of familiarity, furthermore, generating positive feelings towards the message embodied or the sponsoring organisation. Since sport fans are usually exposed repeatedly to the same sets of brands, additionally in a setting that can be called a leisure activity, it can be assumed that the recall and awareness of those brands can be higher than brands that are not a part of such sponsorships. As written by Walraven, Bijmolt and Koning (2014) this can be linked with the concept of sports involvement, sometimes referred to as activity involvement. As the authors note, the more an individual is interested in a

particular activity (e.g. sport) the more exposed they will be to the sponsorship messages, as opposed to non-fans or individuals with lower involvement.

Those objectives presented above are some of the most frequently cited ones within the field of sponsorship research.

2.3.4 Recent additions to the research area

In the recent years, a plethora of new sponsorship research emerged. Since its emergence into as we know it now in 1980, the perspectives on sponsorship is constantly revisited and challenged by different authors. With the evolution of digital scope and marketing related tools, more recent studies look into the topics of social media and sponsorship, team identification, brand personality and many more.

Since early research, scholars investigated the effect of team identification on attitudes on sport sponsorship. In the recent studies related to this topic, scholars such as Chien, Kelly and Weeks (2016) find out that team identification has an impact on consumers responses to sport scandals. As the authors argue, individuals that identify highly with the team of their liking are much more favourable towards them despite controversies surrounding them. This seems to support the earlier research on the topic of team identification and sponsorship, for example the before mentioned research done by Koronios et al. (2016) as well as Vale, Serra, Vale and Vieira (2009). Additionally, the concept of team identification will be explained in further detail in part 2.5.2 of this research project.

With the emergence of new technologies, many authors focused on the digital transformations related to sponsorship as well as the ever-growing popularity of social media. As Keshkar et al. (2018) argue, the merging of customer needs has pushed brands to opt for effective and unique ways to communicate with sport fans. They note down that in the times where information is widely accessible to consumers, the competition among brands intensifies, which makes the sport content increase in value due to its appeal towards the fans. Keshkar et al. (2018) additionally argue that in times of digital transformation as well as globalisation of media, global brands opt for creating strategic sponsorship partnerships through contracts that enhance value for the sport environment. In addition to that, studies conducted by researchers such as Popp and Woratschek (2016) investigate the concept of branded communities in sport. They stress the importance of establishing and maintaining such branded online communities within the sport environment, as with the utilisation of the common interest of a community there is a promise of loyal members. Additionally, the element of social interaction between members creates a value for the consumer to participate in such community, which can be beneficial in terms of sport sponsorship. This perspective can be also linked with the outlook Bee and Dalakas (2015) have on the building of a consumer base.

Relating to the point made by Keshkar et al. (2018) about the global brands, Zaharia et al. (2016) investigated if sport sponsorships can be considered as global - by performing a cross-national study

between three countries. As they find out, sport sponsorship can be seen as effective when it comes to building brand awareness, despite companies coming from different cultures and utilising different strategies in different markets. Their research can be thus seen as an extension of the sponsorship objective as pointed out by many authors such as Cornwell, Roy and Steinard (2001), Quester and Farely (1998), Smith et al. (2016) and Grohs (2016).

Since the objective of brand awareness has been brought up, other concepts related to brands have been also investigated more recently. Authors such as Hohenberger and Grohs (2019) find out that sport sponsorship can be particularly efficient in transferring specific salient personality and age characteristics from the sport to a brand. The authors argue that sport sponsorship can be a useful tool when it comes to changing brand image as well as brand personality. This outlook on sport sponsorship generally supports the previous perspectives, as investigated by Grohs and Reisinger (2005, 2014). Additionally, research conducted by Giroux, Pons and Maltese (2017) supports the notion that consumers do consider brand personality when it comes to their reaction to marketing activities.

Lastly, an interesting addition to the sport sponsorship research has been added to the field in the recent years, and that is investigation in why do certain sponsorships end. Cornwell and Jensen (2017) attribute ending of marketing relationships to various factors from economic conditions, to sponsorship clutter, to congruence between the sponsored property and brand equity exhibited by the sponsor which can have an impact on the consumer. Once again, this addition to the field seems to be agreeing with the previous notions in research regarding the impact of sponsorship on a consumer.

2.4 Brand equity

2.4.1 Brand equity definition, origin and dimensions

As defined by Aaker (1992) brand equity is a set of assets that create a value of the brand. This author was arguably the first one to look into consumers when providing a definition for this concept. He views brand equity as a combination of pros and cons that the consumer relates to a brand, which drives the value of it as perceived by the consumer. The author argues that a well created brand equity helps in building and maintaining a strong brand. As found in Biscaia et al. (2013) it can help to build strong personal and emotional relationships with customers, that result in an increase of trust when it comes to the purchase decision as well as brand/product loyalty. As written by Aaker (1992) brand equity consists of five different assets: brand loyalty, brand name awareness, perceived brand quality, brand associations in addition to perceived quality and other proprietary brand assets. These assets constitute to the value of the brand. It is important to mention that brand equity is usually view through two perspectives, for which both have different aims: financial and customer based. The financial perspective, as explained in the work of Biscaia et al. (2013), aims at bringing the financial value that a brand can provide to the company into the foreground. This perspective focuses more on the economic dimension of a brand then the latter one. Simply defined this approach investigates the brand in terms of potentially being an asset that adds value to the brand (so brings profit). The second concept, customer-based brand equity brings the consumers perspective into the

foreground.

The concept of consumer-based brand equity has been introduced by Keller (1993) and was built upon the conceptual base of brand equity provided by Aaker. In his work, he defines customer-based brand equity as “differential effect of brand knowledge on consumer response to the marketing of the brand” (Keller, 1993, p.1). As brought up in Nareth (2018), customer-based brand equity represents a viable option for firms to assess their long-run effectiveness of their marketing strategy. For Keller (1993), the customer is the driving force behind brand equity, as it relates to the customers knowledge, associations and responses to the marketing of the brand. The “differential effect” as mentioned in the definition is crucial, as written by Roy and Cornwel (2003), because otherwise the brand is just a little more than a generic version of a product, without any special attributes to it. As they note down, the “brand knowledge” is influenced by the marketing activities, but it is ultimately based in the mind of the consumer. Lastly, the “consumer response” refers to the behaviour exhibited by the consumer such as favourable associations toward the brand or repeated purchasing.

Although both Aaker (1992) and Keller (1993) look into the concept of customer-based brand equity, they utilise different approaches towards it. Aaker (1992) looks at evaluating brand equity through five different dimensions: brand associations, brand awareness, brand loyalty, perceived quality and other brand assets. Keller (1993) on the other hand attempts at a more basic approach and focuses on two dimensions, namely brand awareness and brand image.

As argued by Keller (2003), which goes in line with argument made by Aaker (1992), a well-executed brand equity with additional use of basic branding principles is what makes a brand strong. Keller (2003) stresses the importance of what he calls “added value” - something that makes the product distinguishable and “better” than the one of competitors. The authors present three different drivers of brand equity: brand elements and identities making up the brand, the marketing activities surrounding the brand and also other associations transferred to the brand. The first one, namely the brand elements and identities making up the brand refer to visual and non-visual elements that constitute to the brand, for example: the logos, symbols, brand names, slogans, jingles, spokespeople and more. The second one, so the marketing activities and the manner in how the brand is integrated into them refers to things such as the actual product, distribution of it, the pricing as well as communication strategies. The last one, other associations transferred to the brand refer to everything that can be indirectly transferred to the brand from other entity, for example from the mother company of the brand, country of origin or even another brand. Keller (2003) points out that the key for successful brand equity use is reinforcement. As the author argues, reinforcing brand equity requires consistency, and such reinforcement can be done by making adjustments to the marketing strategy, which can help to identify new sources of brand equity. Keller (2003) stresses the importance of such tactics, because, as he argues, failure in doing so will decrease brand awareness and debilitate brand image.

Looking back at arguments of Keller (1993), there are many components that constitute brand equity. In the following part three of them will be explained, namely brand recall, brand awareness and brand

loyalty, due to their importance to this research project and the frequency of those being mentioned in relation to sport sponsorship as well as other key concepts explained in this chapter.

2.4.2 Brand equity: brand recall, brand awareness and brand loyalty

Throughout the already existing literature three concepts that are a part of brand equity, which are brand recall, brand awareness and brand loyalty are frequently used to measure the impacts of sport sponsorships on consumers, and the outcomes of such impacts on their behaviour.

The first one, brand recall as defined by Aaker (1992) is perceived to take place when a brand can be recalled properly by a consumer, without any external mention of the class of the product or alternative brand names. Brand recall helps companies to look into how easily consumers can remember their name when addressed in a particular setting. As argued by Ko et al. (2008, p.10) “recall increases as a function of duration of exposure to sponsors, previous brand awareness of sponsors, message length and design, sociodemographic variables of the spectators and interest in the event sponsored”. In the work written by Barros et al. (2007) the authors argue that brand recall is associated with advertisement and promotion (for example during an event) as opposed to brand preference that is based on customers judgement on how the brand performs with consumers past experiences and expectations. Since the authors investigate brand recall in the context of sport sponsorship, they argue that brand recall can be influenced by the attitude towards the event as well as the perceived sponsor-event fit. Additionally, they note down that brand recall might be influenced by the preference towards certain brand.

Linked with that is the second concept of brand awareness ties back to customer knowing about the existence of the brand, as it means that if the consumer is unaware of said existence, their products are not going to be considered while deciding upon a purchase of a product (Walsh, Yongjae, Ross, 2008). As argued by Keller (2009) the awareness is related to the strength of the brand in consumers memory and is reflected by their ability to recognise the brand and recall it. Those two concepts of awareness and recall go hand in hand, since one will be hard to achieve without another. As written by Bauer, Sauer and Schmitt (2005) based on Keller (1993), brand awareness consists of two different dimensions: active brand awareness (brand recall) and passive brand awareness (brand recognition). These two as noted by Percy and Rossiter (1992) are two separate types. As they argue, brand recognition happens when consumer first thinks of the brand and then considers the relevance of the category of the product. Brand recall on the other hand happens when the consumer first thinks of the category and then relies on his or her knowledge of possible brands to find a solution. As noted, those two are based on the different communication effects that happen in consumers mind. As noted down in Huang and Sarigöllü (2011) brand awareness provides a learning advantage for the brand and it affects consumers decision-making related to purchasing. As argued, if consumers are aware of the existence of a brand within the product type, they’re interested in buying, they are much more likely to be a part of the consideration set. As Huang and Sarigöllü (2011) find out, brand awareness is also linked with brand market outcome and the results can be found in the brand’s positive performance in the marketplace. This outlook on brand awareness is supported by other authors, such as

Hoyer and Brown (1990) who add that consumers subjected to brand awareness might exercise a bias towards those brands they are aware of. Additionally, as they argue, brand awareness is a frequent tactic choice among consumers who are facing a new decision-making task.

The last one, brand loyalty, is defined by Jacoby and Kyner (1973) as a psychological behavioural response over expressed time, that is not random, with the respect of alternative brands. As can be found in He, Li and Harris (2011) constructs such as trust, consumer satisfaction and perceived value might constitute to customers brand loyalty. This outlooks is supported by other authors such as Chaudhuri and Holbrook (2001) who claim brand loyalty may be determined by trust in the brand, and may result in driving the profitability of the company, since brand loyal consumers are more willing to pay a higher price for a product or service as long as they find some unique value in it. This unique value might be either directly derived from product or service itself or might influence areas such as customers attitudes or identities. He, Li and Harris (2011, p. 649) explain it with the use of the social identity perspective, that suggest that consumers “engage pro-brand behaviour because they identify with the focal brand or company.” This perspective places the concept of brand identity (so what the brand values, what the brand communicates and portrays) as the key feature that relates with consumers identification. On the other hand, authors such as Nam, Ekinci and Whyatt (2011) additionally attribute brand loyalty to consumers satisfaction. It is important to note down that they do not denounce the importance of consumer identification to constitute to brand loyalty. As they argue, brand loyalty might occur in consumers who perceive the brand to fit with their lifestyles and social identity. But as they evaluate upon, consumer satisfaction with their experience serves an important role. Additionally, authors as Lau and Lee (1999) argue for the importance of brand trust factor when it comes to forming brand loyalty. As they note down, trust in brand occurs when the consumer is willing to act without calculating the costs and benefits of such decision.

The following parts of the chapter will provide information about activity involvement and fan identification, due to them not only being crucial parts of this research project, but also as showcased above their links with the concepts of brand awareness, brand recall and brand loyalty.

2.5 Activity involvement and fan identification

2.5.1 Activity involvement

In the sport sponsorship literature, there are two popular concepts that refer to the fans of particular sports - activity involvement as well as fan identification. Activity involvement, also referred to within the literature as sport involvement, sport activity involvement or leisure activity involvement is a term that is used by many scholars when it comes to sport sponsorship. When it comes to the definition of sport involvement, Beaton et al. (2011) identify a lack of agreement upon one specific definition within the literature. For the sake of this particular research, a more recent definition of involvement will be adapted. As defined by Koronions et al. (2016) sport activity involvement relates to the level to which an individual is interested in a particular sport. This definition seems to be coherent with some older research, for example with Hill and Green (2000) who define involvement as discern importance of a particular sport to the

consumer.

Beaton et al. (2011) identify four different stages of sport involvement formation, namely: awareness, attraction, attachment and allegiance. As explained by the authors, awareness is the first step in involvement creation, as the consumer needs to be aware of the opportunity to partake in activity. As they argue, if a consumer has not yet taken part in a particular activity, his or her awareness of it is shaped by external forces such as media, social and cultural beliefs, family and more. The result of that is that if the consumer finds the opportunity congruent with his or her beliefs and identity, they are more likely to place that activity in a consideration set that leads to realisation of the participation opportunities. The second stage as identified by Beaton et al. (2011) is attraction. As they explain, it's a process where the awareness outcomes interact with personal, psychological and environmental motivations which results in an emotional response. The authors argue that the outcome of the attraction processes is "relatively unstable psychological connection based on the pleasure derived from the activity (Beaton et al., 2011, p. 131)". The third stage is the attachment stage. This process reflects the assignment of the emotional, symbolic and functional meaning to an activity by an individual. The authors argue that as participation in an activity continues, the element of stability is introduced to the relationship between the activity and the individual, but the psychological connection is still not yet fully developed. The last stage according to Beaton et al. (2011) is allegiance. As argued by the authors it is during this stage that the individual has been so involved with the activity he or she perceives is as a representative of their values and beliefs and will continue the participation in this activity rather than switching to another one. It is the stage where the psychological connection is fully developed.

When it comes to the relation between sport activity involvement, brand equity and sport sponsorship, Meenaghan (2001) mentions that fans that are highly involved (also meaning having the most knowledge out of others) are highly aware of the position of the sponsor and they tend to form positive associations if the sponsors behaviour towards the activity is not abusive. This notion seems to be supported by other authors, such as Cornwell et al. (2000) who points out that involvement has an impact on the recognition of sponsorship stimuli. Levin, Joiner and Cameron (2001) point the focus on the other side of the spectrum presented by Meenaghan (2001) - fans that score low in involvement might not perceive sponsorships through particular associations because they have no interest or very low knowledge of that particular sport.

Based on those findings, it can be therefore assumed that both brand recall and brand awareness of the fans are linked with the levels of activity involvement they exhibit. Therefore:

H1a: Activity Involvement has a positive relation with brand recall of Formula One fans.

H1b: Activity Involvement has a positive relation with brand awareness of Formula One fans

Additionally, authors like Bachleda, Fakhar and Elouazzani (2016) note down that sports involvement is a necessary addition to sponsor awareness that increases the predictive power on customers (fans) purchase

intentions. Based on this concept consumers may form positive associations with the brands that are sponsoring their favourite team or athlete. This positive associations might be represented through emotional connection that forms between them, the team and the sponsor, which might result in brand loyalty based on the before mentioned unique value for the customer, that can relate to their identities and attitudes.

Based on the arguments presented by Bachleda, Fakhra and Elouazzani (2016), it can be then assumed that brand loyalty of fans is linked with the levels of activity involvement they exhibit. Therefore:

H1c: Activity Involvement has a positive relation with brand loyalty of Formula One fans

Additionally, as noted by Alonso Dos Santos et al. (2016) consumer with a higher level of involvement are more likely to experience image transfer between the sponsor and the event, as opposed to consumers with a lower level of involvement. They also note down that groups with lower involvement show no relationship between the attitudes towards the even and sponsor, which has been mentioned beforehand with the findings of Bachleda, Fakhra and Elouazzani (2016).

2.5.2 Fan Identification

In connection to fans identities and attitudes, the concept of fan identification or as called by Gwinner and Swanson (2003) “team identification” refers to the connectedness perceived by the fan to a sports team as well as the experience of seeing the teams’ failures and wins as one’s own. As properly defined by Sutton et al. (1997, p. 15) fan identification is “personal commitment and emotional involvement customers have with a sport organisation”. As the authors note down, when it comes to the domain of sport, it differs from other types of entertainment because it evokes high levels of identification and emotional attachment as in comparison to others. Sutton et al. (1997) identify 3 different levels of fan identification: low (social fans), medium (focused fans) and high (vested fans). When it comes to the low identification level, or as it’s also referred to “social fans”, the authors characterise it as a passive relationship that involves low levels of emotion, financial commitment and involvement, but is a relationship nevertheless. As argued, these fans do not have an emotional connection with the sport, team or athlete, but rather are attracted by the entertainment value of it. This phase might be an introductory phase that can evolve into a greater level of identification. The second level is referred to as the “focused fans”. As explained by the authors, this level of identification relates to an association that is based upon some of the attributes or elements that are found to be attractive. Those elements and attributes might be team performance, player personality or social factors. These fans might showcase behaviour similar to the one of fans with high level identification but are more likely to not invest so much as the last group and are more attracted to the team performance, hence their additional name of “achievement seeking fans”. This stage of identification might either result in a greater relationship or identification, but it can also die out if the involvement runs out. The last level of involvement is also referred to by Sutton et al. (1997) as the “vested fans”. These fans have the longest, strongest and most loyal relationship a participant can have with the sport or a team. This relationship usually is based on a high level of investment, time wise, emotionally or financially, or all of them at the same time. As explained by the

authors, these fans feel “emotional ownership” over the sport (which can showcase itself with them referring to their favourite team or sport as “we”) and are likely to introduce others to the sport or team of their liking. Fans with this level of involvement are most prone to dedicating big parts of their daily lives to following their team activities as well as view their team of liking as an extension of their own community. Additionally, the highly identified fans are more prone to invest greater amounts of money. As Donahay and Rosenberger III (2007) observe, fans who feel more connected and identify with their team on a higher scale are less likely to lose their support as well as their loyalty when the team of their liking performs worse than expected by them. It is important to add that some authors warn about extreme fanaticism. Aiken, Bee and Walker (2018) argue that building one’s entire identity over the sport or team they’re a fan of might be dangerous and can lead to compulsive over-consumption of sports.

As found out by several authors, high fan identification has an influence on attitude towards sponsors, sponsor patronage and satisfaction with sponsors (Gwinner & Swanson, 2003); sponsor recall and recognition (Donahay & Rosenberger III, 2007; Gwinner & Swanson, 2003) as well as purchase intentions and image transfer (Donahay & Rosenberger III, 2007; Smith et al., 2016). Following from that, the authors advise the companies to ascertain the importance of performance accordingly to their market, due to fan’s fanatical consumption, that can manifest itself in for example extreme brand loyalty. Additionally, this brand loyalty might mean, as argued by Bee and Dalakas (2015) that the consumer is willing to purchase a lesser product based on the fact that the company is a sponsor of the team of their liking and might avoid products that sponsor their rivals. Based on these findings that link other concepts with fan identification presented by several authors mentioned above, it can be assumed that:

H2a: Fan Identification has a positive relation with brand recall of Formula One fans.

H2b: Fan Identification has a positive relation with brand awareness of Formula One fans.

H2c: Fan Identification has a positive relation with brand loyalty of Formula One fans.

3. Methodology

3.1 Methodology introduction

The following chapter will present the methodology of this research project: the research method, data collection instruments as well as the data analysis procedures. It will provide justification for the chosen method as well as the sampling method and will also include researchers' observations regarding the data gathering as well as expectations and possible explanation for some of the aspects of the data gathering process. It provides theoretical argumentation for the steps undertaken, as well as aims at explaining those steps in as much detail as possible.

3.2 Research method and justification

In aim to answer the research question and hypotheses of this project, this study will make use of quantitative data approach, and will utilise a survey as the primary way of acquiring data. The list below contains the main research question, research objectives as well as the hypotheses to summarise the main investigation of this research.

RQ: To what extent does activity involvement and fan identification of Formula 1 influence the brand recall, brand awareness and brand loyalty of brands involved in F1 sponsorships?

H1a: Activity Involvement has a positive relation with brand recall of Formula One fans.

H1b: Activity Involvement has a positive relation with brand awareness of Formula One fans

H1c: Activity Involvement has a positive relation with brand loyalty of Formula One fans

H2a: Fan Identification has a positive relation with brand recall of Formula One fans.

H2b: Fan Identification has a positive relation with brand awareness of Formula One fans.

H2c: Fan Identification has a positive relation with brand loyalty of Formula One fans.

Since this research is predominantly occupied with investigating the relationship between racing sport sponsorship and consumer behaviour, surveys are the leading method in order to collect a bigger and more varied sample of respondents. These implications let to the choosing of a quantitative approach. As explained by Gelo, Braakmann and Benetka (2008, p. 268) "Quantitative research requires the reduction of phenomena to numerical values in order to carry out statistical analysis".

To make sure the most representative sample was acquired, after a further evaluation of strengths and weaknesses, the method of online survey has been chosen. As mentioned by Evans and Mathur (2005, o, 195): „During the twentieth century, there were great advances in the techniques and technologies utilised in

survey research, from systematic sampling methods to enhanced questionnaire design and computerised data analysis “. The advances in technology allowed the surveys to be designed over the convenient web setting which resulted in a higher reach than other types of surveying. Nowadays if designed properly, online surveys can provide a lot of important data for the researched in the desired topic (Buchanan & Hvizdak, 2009).

When it comes to the strengths and weaknesses of online surveying, Evans and Mathur (2005) discuss both of those in their work. Those authors identify a few major strengths of the online surveying method. These are global reach, speed and timeliness, technological innovations, convenience, ease of data entry and analysis as well required completion of answers among others. The global reach is an important aspect when it comes to this research project. Due to the international scope of the sport in question (Formula One), it is important to gather data from around the globe to investigate different perceptions towards sponsorship as well as fan identification and activity involvement. Speed and timeliness are also other factors that influence the reasoning for the choosing of this method, due to the limited time of completion of this research project. Technological innovations of online surveying have been helpful when it came to the questionnaire set up - namely the possibilities available made it feasible to include pictures in the survey, that made it easier to inform the respondents about particularities of research (in that case the pictures included the photos of cars and sponsors) as well as catch their attention with something of their liking. Convenience has been a major strength of the online survey method that meant that not only the distribution of the survey was easier, but also the fact that it was more feasible for the respondents to partake in the study. The ease of data entry and analysis have played a role when it came once again to the limited time of completion of this research project. It also meant that during the distribution and data gathering process it was easier to track the amount of people who already completed the survey (including partial responses). Lastly, the required completion of answers was another important factor that led to choosing this method, because it meant that the respondents had to answer all of the required questions available in the survey. Some of these aspects will be further evaluated in the following parts of this chapter.

Evans and Mathur (2005) also extensively discuss the weaknesses of the online surveying method that had to be taken into the consideration when choosing these methods. These weaknesses were privacy issues, unclear answering instructions, perceptions as junk mail as well as the impersonality of approach.

To minimise those threats, a number of precautions had to be made in order to ensure the method helped to gather the best data sample attainable. In regards of privacy issues, the respondents have been assured that their participation in the study is anonymous and the data gathered will only be used for the sake of this particular research. It also meant that the amount of “private” questions has been limited to only nationality, gender and age, without revealing more information that could have been labelled as sensitive. The unclear answering instructions has been minimised by providing detailed instructions for every single question in the survey: for example “please indicate how you feel about following statements” when it came to the Likert-scale questions; “you can choose more than one” as an indicator for the multiple-choice questions or “write

as many as you want” for the open questions. These measures made sure that the threat of misunderstanding a question was minimised. The threat of the survey being mistaken for junk mail has been minimised by the questionnaire set up and distribution method: the survey has been created with the use of Qualtrics, an online survey tool and it was distributed through various channels such as Twitter and Facebook, which will be additionally evaluated in the following parts of this chapter. Lastly, the impersonality of the approach has been reduced by making sure the respondents knew who was conducting the research (an indication in the beginning of the survey) as well as they were (attempted to) made feel appreciated by participating in the research.

Despite those certain threats discussed above, the online survey method still can provide the best sample (Buchanan & Hvizdak, 2009). The strengths and weaknesses showcased beforehand were all considered when it came to deciding upon the method and the online survey method has been found to be the most suitable for this research, as in comparison to other methods. For example, another possible method for this research project was experiments, but the limitation of the reach (namely it was not possible to acquire such diverse group) deemed it unsuitable for this project. Additionally, it is worth to mention that many authors of the already existing research in the topic of motorsports, sponsorship and consumer behaviour use surveys as their main source of acquiring data (For example: Donahay & Rosenberger III, 2007; Quester & Farrelly, 1998).

3.3 Data collection instruments

3.3.1 Procedure

In order to collect a variety of responses, an online survey was constructed with the use of the Qualtrics tool. The questionnaire consisted of 16 questions, both structured and non-structured, and was divided into 6 blocks. Before the actual questionnaire began, the respondents were presented with a message that contained general information about the survey. In the first block the respondents are asked about their basic information such as age, gender and nationality. The second one focused on measuring exposure - the respondents were asked how long they have been watching Formula One. The third block consisted of 7-point Likert-scale question about meant to measure activity involvement. The fourth block consisted of two questions measuring fan identification: a multiple-choice question regarding their favourite team as well as a 7-point Likert-scale question with some fan identification statements. The fifth block had only one question in it, and it was an open question meant to measure brand recall. The last block consisted of statements meant to measure brand awareness and brand loyalty with the 7-point Likert-scale as well as pictures. The pictures have been utilised in order to provide a cue for the respondents about the sponsors in questions before asking them directly about it. Since the fans are primarily exposed to the sponsorships through their logos on the cars, it can be assumed that the pictures help the fans trace a node in their memory about a specific sponsor. The teams and sponsors used for this part of the questionnaire were: Scuderia Ferrari and Rayban; Red Bull Racing and Puma; McLaren F1 and Coca

Cola and lastly Haas F1 and Jack & Jones. Two first teams on this list are two of the teams are teams from top 3 of the championships, the latter ones are lower in the general standings. They have been chosen like this to mix it up, so it does not only follow the big ones. The sponsorships chosen for this are either food companies or retail companies because they are much more accessible to regular fans than for example companies like Petronas or some high-tech and automotive companies. First the respondents seen the picture with the car and sponsorship, and then they were presented with the statements to answer with the use of a 7-point Likert-scale. After the respondents completed the questions, they were presented with a thank you message indicating the end of the survey. The actual items used for the activity involvement, fan identification, brand awareness and brand loyalty will be discussed in more detail in the following part of this chapter. Additionally, the entire questionnaire is provided in the Appendix A.

The data collection process took place from the 28th of March 2020 till 30th of April 2020. This ensured that data was collected over an entire one-month period. The survey was distributed over two social media platforms: Facebook and Twitter, due to the fact that Formula One is currently the fastest growing major sport on social media platforms, reaching around 18.5m followers on their social media channels (F1, 2020). Both of those platforms experience significant presence of Formula One fans. Facebook does so with the fan pages and groups. When it comes to twitter Formula One observed a significant increase in fan activity over twitter, of over 66.1% in comparison to 2018 (F1, 2020). Especially twitter remains one of the most popular platforms not only among fans, but also among the actual Formula One teams. It is so because the teams use twitter most frequently to post statements and updates among other platforms. It can be assumed it happens so because of, as noted by Castillo, Mendoza and Poblete (2011, p. 675) “real-time propagation of information to a large group of users”. Those two has been also chosen due to their accessibility and convenience - it is possible to spread information within large groups of people in seemingly short period of time. The survey was distributed on Facebook by a post that included the link to the survey on two different Formula One related fan pages. On twitter, it was done so by making a tweet containing the link to the survey, that was either retweeted or reposted by other users of the platform. According to Clement (2019) in the first quarter of 2019 twitter attracted over 262 million international users, which has been a crucial factor due to the international interests of the research. Over the course of the month of data collection process, several reminders were issued to ensure participation in the survey.

3.3.2 Operationalization

All of the variables, concepts and items used in this research project are going to be explained in this subchapter. For the creation of the questionnaire, a number of scales has been used. Those scales have been mainly found in the literature regarding the topic sponsorship and Formula One, with an addition of the fan identification scale that has been found in literature regarding sponsorship and American football team. The overview is presented below.

Independent variable: activity involvement

The first independent variable of this research project is the activity involvement. The concept of activity involvement is defined by Koronions et al. (2016) as the level to which an individual is interested in a particular sport. Within the literature presented in the literature review chapter, activity involvement can have an influence on brand equity, hence its importance within the research project.

To measure this variable, a scale from Grohs and Reisinger (2014) has been deployed and used in the online survey, while previously adapting it to fit the needs of this research. The items used to assess this variable are:

- Formula One is important to me
- I like to engage in Formula One
- Formula One means a lot to me
- I am very interested in Formula One
- For me, Formula One is exciting

Those items have been measured with the use of 7-point Likert-scale, from strongly disagree to strongly agree. Because of that, this independent variable is a scale interval variable.

Independent variable: fan identification

The second independent variable of this research project is the fan identification. The concept of fan identification is defined Sutton et al. (1997, p. 15) as emotional involvement and personal commitment the customers have with sport organisations. As discussed in the literature review chapter, fan identification can have an influence on brand equity, and might alter and influence the perception of sponsorship messages for the consumers.

To measure this variable, a scale from Gwinner and Swanson (2003) has been used and adopted for the purpose of this research. The items used to assess this variable are:

- When someone criticises my favourite team, it feels like a personal insult
- I am very interested in what others think about my favourite team
- When I talk about my favourite team, I usually say “we” rather than “they”
- My favourite team’s successes are my successes
- When someone praises my favourite team, it feels like a personal complement
- If a story in the media criticised my favourite team, I would feel embarrassed

Those items have been measured with the use of 7-point Likert-scale, from strongly disagree to strongly agree. Because of that, this independent variable is a scale interval variable.

Additionally, a question about the favourite team of the responded has been asked before-hand, to help identify the preferences of the respondents. This was measured with the use of multiple-choice question with the team names and drivers of the 2019 Formula One season.

Dependent variable: brand recall

The first dependent variable in this research project is brand recall. The concept of brand recall is defined by Aaker (1992) as a brand being properly recalled by a consumer, without any external mention of

the class of the product or alternative brand names. As discussed in the literature in the context of sponsorship, brand recall can be influenced by brand preference, attitudes towards events, previous sponsorship awareness and many more. The item used to assess this variable was:

- Which F1 team's sponsoring brands are you able to recall?

This item has been measured with an open question, asked before questions related to brand awareness and brand loyalty. The respondents were encouraged to provide as many responses as they could think of. Because of the use of the open question, this means that the brand recall variable is a string variable

Dependent variable: brand awareness

The second dependent variable in this research project is brand awareness. The concept of brand awareness is defined by Keller (2009) as the strength of the brand in consumers' memory and is reflected by their ability to recognise the brand and recall it. As discussed in the literature, brand awareness can have an impact on the decision-making processes of consumers, and it can be influenced by exposure as well as activity involvement. The items used to assess this variable have been derived from Woisetschlager (2007) and adapted for the need of this research project. These items are:

- Some characteristics of X come to my mind quickly
- Are you familiar with the company/brand "sponsor name" and their team sponsorship?

This item has been measured with a 7-point Likert-scale, from strongly disagree to strongly agree, and the brands asked about in those questions have been the four different teams and sponsors presented to the respondents with the use of pictures. Each brand and correlating picture had its own section within the survey. Because of the use of the Likert scale, this variable is a scale interval variable.

Dependent variable: brand loyalty

The third dependent variable and last in this research project is brand loyalty. The concept of brand loyalty is defined by Jacoby and Kyner (1973) as a psychological behavioural response over expressed time, that is not random, with the respect of alternative brands. As presented in the literature review, brand loyalty can relate highly to fan/consumer identification, since it links with consumers' perceptions, identities, values and lifestyles. To measure this variable, a scale from Woisetschlager (2007) has been used in the survey. The items used to assess this variable are:

- I consider myself to be loyal to X
- X would be my first choice.
- I will not buy other brands if X is available at the store.

These items have been measured with a 7-point Likert-scale, from strongly disagree to strongly agree, and once again the brands used in this question are the ones provided to the respondent with the use of photos, as with the brand awareness variable. Because of the use of the Likert scale, this variable is a scale interval variable.

The entire questionnaire is provided in Appendix A of this research project, with the questions as

well as the pictures.

3.3.3 Sample size and sampling method

For this particular research project, the sample that was necessary to obtain had a few criteria that were important. Since this project looks into a specific environment that is Formula One racing, the participants to this study needed to be fans of the sport or had a lot of contact with it in the past. The respondents needed to be between the age of 16 to 70 years old, to take into account the multi-generational reach of the sport. Such a broad range of age was more easy to target, since nowadays, both old and new fans of the sport frequently use some type of social media to share their interests in the sport, also due to the fact that sport teams are more interested in using social media to either create new, or foster pre-existing relationships with their fans (Pronschinske, Groza & Walker, 2012). Due to international reach of the sport, it was important that the participants of the study do come from various countries, although it can be assumed that some nationalities might be more prevailing than others (for example: British, German, Dutch).

Because of that, the sampling method chosen to obtain a representative sample was the snowball sampling method. As written by Fricker (2008, p. 200) “Snowball sampling relies on referrals from initial respondents to generate additional respondents. While this technique can dramatically lower search costs, it comes at the expense of introducing bias because the technique itself substantially increases the likelihood that the sample will not be representative of the population.” In terms of this particular research it can be argued that the sample can be seen as representative of the population, because this project targets a very particular piece of overall population that are Formula One fans. This particular method was the most suitable also due to the distribution of the survey through social media, because the respondents were aware that they can forward the online survey to more fans that are in their close (or not so close) environment. As written by Clavio and Frederick (2014) with the idea of social sharing on those social media websites and the concept of fandoms, fans of a particular sport or other entertainment will share their own thoughts and activities related to what they like, while also engaging with other fans of the same thing. It could be assumed that if the survey was distributed or shown to someone from the group of fans, it was more probable it would be forwarder further as a way to communicate with others.

Additionally, as a side-note, the engagement of the fandom was higher than expected. The fandom was very helpful with the gathering of the data, and the actual posts and tweets about the survey have been forwarded numerous times. It is important to note down that this engagement could be possibly explained with the global pandemic of COVID-19 around the world and cancellation and postponement of 10 first races of the 2020 season (which is when the data was gathered). Because most countries entered a lockdown and the fans were left with considerably small amounts of entertainment related to Formula One, the word of mouth about the survey was easier to spread fast than it could have had during a regular F1 season.

The actual details of sample of this research project will be presented and discussed in the analysis

section of this research project. The minimal number of respondents aimed for this research is between 150 to 250 respondents.

3.4 Data analysis procedures

For the data analysis, a number of statistical procedures will be deployed.

First, a non-parametric test will be used for H1a and H2a. As found in literature, non-parametric tests don't assume certain characteristics of the population from which the sample used for analysis is drawn (Greasley, 2008). A chi-square test of variance will be performed to find if there is a relationship between brand recall and activity involvement and fan identification. First, cross-tabulations will be generated to find out the relationship between the before mentioned variables. Then a chi-squared test of independence will be performed to determine whether the differences that occurred were significant. As mentioned in the literature, cross-tabulations and chi-squared test are among some of the most popular descriptive statistics, as they allow to examine the relationship between variables in greater detail (Greasley, 2008)

Second, a parametrical test will be used for H1b, H1c, H2b, H2c. As in opposition to the before mentioned non-parametric tests, the parametric tests are based on an assumption about characteristics of the population that the sample was drawn from (Greasley, 2008). A regression analysis will be performed to find if activity involvement and fan identification have an influence on brand awareness and brand loyalty. Regression analysis can be used to assess the relationship between independent and dependent variables in order to find the best way that predicts this relationship between those variables (Greasley, 2008). In case of this particular research, the linear regression will be performed. Additionally, a t-test will be performed to compare the difference between the levels of fan identification and activity involvement.

Despite this research being a quantitative one, it will deploy a use of qualitative technique to compare how many times brand that were used to assess brand awareness and brand loyalty were mentioned in the open question related to brand recall. It will be done manually with a pdf file exported from the dataset. Table 3.4 presents an overview of the techniques in relation to the variables and hypothesis of this research project.

Table 3.4

Overview of techniques, variables and hypothesis.

Hypothesis	Variables	Statistical technique
H1a	Activity involvement, brand recall	Chi-square test of variance
H1b-c	Activity involvement, brand awareness, brand loyalty	Regression analysis

H2a	Fan identification, brand recall	chi-square test of variance
H2b-c	Fan identification, brand awareness, brand loyalty	Regression analysis

3.5 Reliability and validity

The internal reliability of the research has been ensured by the reliability tests when it came to coding the variables, with the use of the Cronbach's Alpha. With every single reliability test conducted, the alpha of every variable has been above .7, which signals internal consistency of the measures. Unfortunately, due to time limitation as well as anonymity of the respondents, the test-retest consistency was not able to be checked.

To ensure the validity of the research, the measures, concepts and instruments used in the study were ones previously used and established within the field. The measures used in this research (beside brand recall) have been found in previous research on the topics of fan identification, activity involvement and brand equity. Only brand recall has been asked more generally, as the theoretical research done for this study has not provided any particular measurements for this concept, only a general question of "what brand can you recall". Additionally, every scale and measurement were derived from research regarding sponsorship, with two out of four variables being measured by items coming directly from research regarding Formula One and sponsorship, to ensure a replicability of the study.

4. Analysis and Results

4.1 Descriptive results

The total valid sample acquired during the data collection process for this study is 188. When it comes to the age of the demographics that took part in this study, the age ranged from 15 till 76, and they have been categorised into 5 groups ($M= 29.5$, $SD= 11.80$). The age of respondents was first registered in a number form and was later recoded into groups during the data preparation process. Those groups are presented in the Figure 4.1 down below.

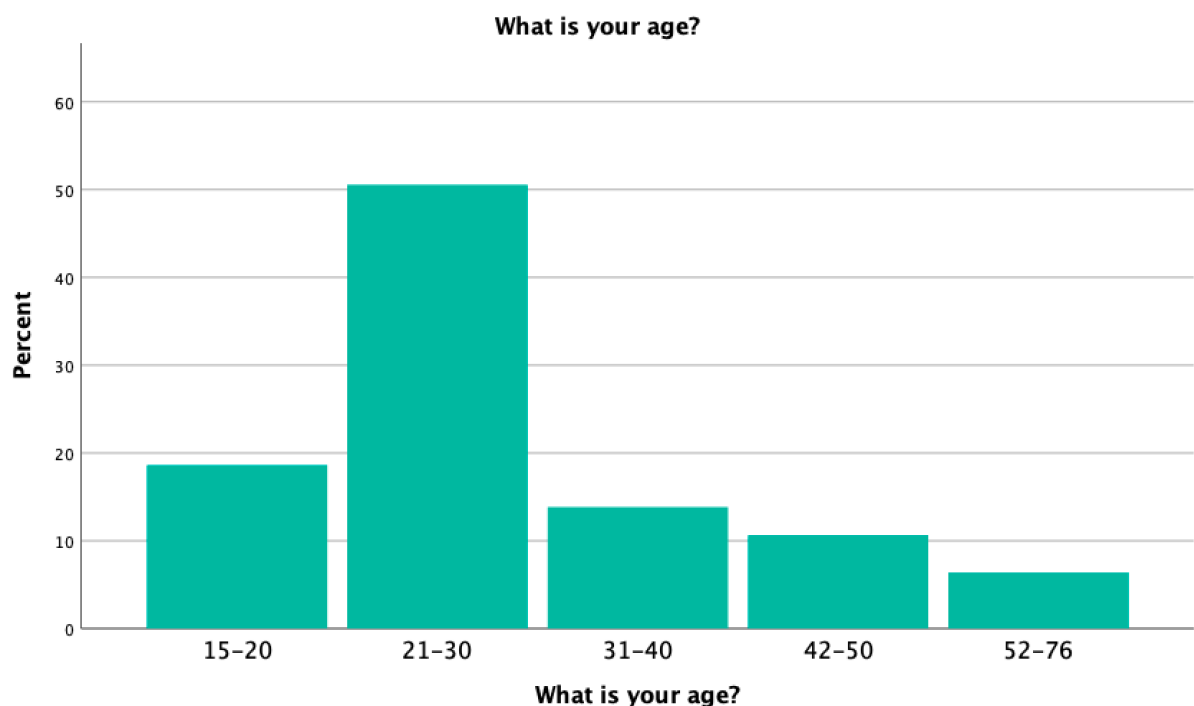


Figure 4.1: Age distributions of respondents

From the total valid sample of 188 respondents, 110 of them were male and 78 were female.

In the total valid sample of 188 respondents, there have been 38 different nationalities participating in this study. Out of the total sample the biggest number of respondents were British (English, Scottish and Welsh) - 46.8%; Polish - 9%; Italian - 4.8%; American - 4.8%; Dutch - 3.2%; Indian - 2.7%; Irish - 2.7%; South African - 2.1%; German - 2.1% and Australian 2.1%. Other nationalities include Argentinian, Austrian, Bahraini, Brazilian, Canadian, Costa Rican, Croatian, Danish, Finnish, French, Greek, Hong Kongese, Hungarian, Indonesian, Kenyan, Mexican, New Zealander, Pakistani, Peruvian, Portuguese, Romanian, Serbian, Spanish, Sri Lankan, Swedish, Swiss and Turkish. These nationalities explain 19.7% of the total sample.

Additionally, the respondents were asked how long roughly they could have been following the F1 championship. In the total sample of 188 valid responses, the most frequent answers were: 15 years (8.5%); 12 years (7.4%); 10 years (6.5%); 13 years (5.9%); 20 years (5.3%); and 3 years (5.3%). With the rest, the responses varied from half a year till even 70 years (for a respondent of 76 years of age, which meant the respondent had the opportunity to follow the championship since its start in 1950).

4.2 Data preparation

Before the analysis process can begin, it is necessary to prepare the dataset. The first step of data preparation in case of this research was deleting non-valid responses. As mentioned in the descriptive results part of this chapter, although the total amount of respondents has been 259, 71 of the responses had missing values, and in most cases the missing values were for more than half of the questions in the questionnaire, hence those being fully excluded from the dataset. Those missing values occurred because the respondents did not complete the entire survey and clicked away, yet because they have started it the response was still registered by the Qualtrics software. After the removal of those responses, the dataset had a total of $N = 188$ valid cases.

Then the variables in the dataset were prepared for further analysis. First, new variables were created to calculate the activity involvement and fan identification of respondents. For activity involvement, the five items of seven-point Likert scale were tested for internal consistency ($\alpha=.962$). Because Cronbach's alpha had a value larger than .7, all five items were used to create a new variable for activity involvement. This has been done by computing a new variable from the mean scores of all five items for each case in the dataset. For fan identification, the six items of seven-point Likert scale were tested for internal consistency ($\alpha=.859$). Because Cronbach's alpha had a value larger than .7, all six items were used to create a new variable for fan identification. This has been done by computing a new variable from the mean scores of all six items for each case in the dataset. There has been an additional question used for assessing the fan identification of respondents, and that has been a multiple-choice question asking about the respondent's favourite team from the 2019 season. This question has been excluded from the database, as some of the respondents would for example choose all of the teams as an answer, hence being unreliable for the analysis. The initial idea and assumption behind this question was to measure if fans of specific teams will score higher in brand awareness and brand loyalty of brands that sponsor the teams of their liking, but that was proven to be not possible in this case, hence the exclusion of the question from the final variable for fan identification.

Afterwards, the variables for brand awareness and brand loyalty have been created. First, for brand awareness, the two items of seven-point Likert scale were tested for internal consistency ($\alpha=.753$). Those two items have been used to assess the brand awareness of 4 different brands used in the survey, and the internal consistency has been calculated for them all together. Because

Cronbach's alpha had a value larger than .7, both of the items were used to create a new variable for brand awareness. Then, for brand loyalty, the three items of seven-point Likert scale were tested for internal consistency ($\alpha=.848$). Once again, those three items have been asked for all four brands present in the survey, and the internal consistency has been calculated for all of them altogether. Because Cronbach's alpha had a value larger than .7, both of the items were used to create a new variable for brand loyalty.

Because the brand recall was assessed with the use of an open question, there were no changes applied in this particular variable. Additionally, to make the descriptive analysis much easier, the nationalities as well as age of respondents have been recoded as presented in descriptive results part of this chapter. The age has been initially recorded as numbers, but for the sake of the presentation it has been recoded into age groups. With nationalities, some of the names provided by respondents needed to be recoded to sum up the numbers (for example, instead of American some respondents written America or US and so forth).

4.3 Results

4.3.1 Brand Recall

H1a: Activity Involvement has a positive relation with brand recall of Formula One fans.

H2a: Fan Identification has a positive relation with brand recall of Formula One fans.

Before interpreting the results of the Chi-square tests, it is important to check for the violation of assumptions. As mentioned by McHugh (2013, p. 144) one of the assumptions of Chi-square tests of independence is that "The value of the cell expected should be 5 or more in at least 80% of the cells, and no cell should have an expected of less than one." This assumption has been violated, as in the case of the Chi-square test for H1a and H2a 100.0% have expected count less than 5, deeming the results unreliable. Due to this, it was not able to test the hypotheses, furthermore failing to accept or reject them. A recommendation for overcoming this particular violation is to collapse the number of cells, but in the case of this research it was not possible to do so.

Although it was not possible to accept or reject the hypotheses, some type of outlook on the matter from the gathered data was able to be shown. A small investigation in in regard to brand recall was performed, to see how the respondents generally did with recalling the brands sponsoring F1 teams. In this case, it has been checked how many times the brands that were used in the later parts of the study were recalled by the participants before they were even mentioned. These brands (RayBan, Puma, Coca Cola and Jack and Jones) were used not only because of convenience, but because brands such as Coca-Cola or Jack and Jones are sponsoring smaller teams. Additionally, in the case of Coca-Cola or Puma they occupy significantly small (in comparison to other brands) spaces on the cars, which means they are less likely to be spotted immediately when looking at the car. It has been done so by counting the mentions of those brands in the brand recall question (Which

F1 teams sponsoring brands are you able to recall? (Write as many as come to your mind)). Due to $N = 188$, these amounts have been checked manually.

In the overall $N = 188$, RayBan has been the brand that was recalled the most frequently (18% of all respondents). It means that almost 1/5th of respondents mentioned RayBan, when the only cue provided to the respondent was “F1 related sponsoring brand”, without mentioning any particular team or person. The second most recalled brand was Coca Cola, with 15% of respondents mentioning it. Puma scored the 3rd place, with 12% of respondents recalling the brand, and Jack and Jones had the least amount of mentions, yet still being in 10% of all answers.

Although this does not provide the answer and does not allow to either reject or accept the hypotheses, it showcases that the respondents are generally able to recall brand that are F1 sponsors without a cue, even the brands that have been used in this research, although the link between the recall and fan identification and activity involvement was not able to be proven. It also provides an insight into the fact that brands can be still recalled even though they do not sponsor top teams or occupy small advertising spaces on the cars.

4.3.2 Brand Awareness

H1b: Activity Involvement has a positive relation with brand awareness of Formula One fans

H2b: Fan Identification has a positive relation with brand awareness of Formula One fans.

Before the interpretation of the regression analysis, it is important to check if the assumptions of linear regression analysis were not violated. The four assumptions of linear regression are: normality, linearity, homoscedasticity, and absence of multicollinearity (Hickey et al, 2019). The normality assumption can be checked with the use of P-P Plot generated during the regression analysis. This assumption has not been violated, and the normality can be assumed. The second assumption is homoscedasticity, and this assumption can be checked with the use of the scatterplot of residuals generated during the regression analysis. Based on the output, this assumption has also not been violated. These outputs have been included in the Appendix B. Because both of the normality and homoscedasticity assumptions have not been violated, the linearity can be assumed. Lastly, the absence of multicollinearity assumption can be checked with the VIF values of the Coefficients table. The test indicated that the data met the assumption, and the multicollinearity was not a concern (Activity Involvement, Tolerance = .97, $VIF = 1.02$; Fan Identification, Tolerance = .97, $VIF = 1.02$). Hence, the data was valid to interpret.

To test the hypotheses H1B and H2B, a regression analysis has been performed to investigate the influence of activity involvement and fan identification on brand awareness. The regression model with brand awareness as the dependent variable and the activity involvement and fan identification as independent variables is significant, $F(2, 185) = 8.31, p < 0.001$. The regression

model is thus useful for predicting the brand awareness among the fans of Formula One, but the predictive power is low: 8.2% percent of the differences in brand awareness can be predicted based on activity involvement and fan identification ($R^2 = 0.082$). Activity involvement, $b^* = 0.18$, $t = 2.45$, $p < 0.05$, 95% CI [6.09, 6.43] and fan identification, $b^* = 0.20$, $t = 2.86$, $p < 0.05$, 95% CI [3.62, 4.02], have a significant effect on brand awareness. This result show that although both activity involvement and fan identification have significant effect on brand awareness, activity involvement has a greater impact than fan identification. Therefore, both of the hypotheses are accepted.

4.3.3 Brand Loyalty

H1c: Activity Involvement has a positive relation with brand loyalty of Formula One fans

H2c: Fan Identification has a positive relation with brand loyalty of Formula One fans.

Before the interpretation of the regression analysis, it is important to check if the assumptions of linear regression analysis were not violated. The four assumptions of linear regression are: normality, linearity, homoscedasticity, and absence of multicollinearity (Hickey et al, 2019). The normality assumption can be checked with the use of P-P Plot generated during the regression analysis. This assumption has not been violated, and the normality can be assumed. The second assumption is homoscedasticity, and this assumption can be checked with the use of the scatterplot of residuals generated during the regression analysis. Based on the output, this assumption has also not been violated. These outputs have been included in the Appendix B. Because both of the normality and homoscedasticity assumptions have not been violated, the linearity can be assumed. Lastly, the absence of multicollinearity assumption can be checked with the VIF values of the Coefficients table. The test indicated that the data met the assumption, and the multicollinearity was not a concern (Activity Involvement, Tolerance = .97, $VIF = 1.02$; Fan Identification, Tolerance = .97, $VIF = 1.02$). Hence, the data was valid to interpret.

To test the hypotheses H1C and H2C, a regression analysis has been performed to investigate the influence of activity involvement and fan identification on brand loyalty. The regression model of the brand loyalty as the dependent variable and the activity involvement and fan identification as independent variables is significant, $F(2, 185) = 12.50$, $p < 0.001$. The regression model is thus useful for predicting the brand loyalty among the fans of Formula One, but the predictive power is low: 11.9% percent of the differences in brand awareness can be predicted based on activity involvement and fan identification ($R^2 = 0.119$). Fan identification, $b^* = 0.35$, $t = 4.99$, $p < 0.05$, 95% CI [6.09, 6.43] has a significant correlation with brand loyalty, when activity involvement $b^* = -0.03$, $t = -4.13$, $p > 0.05$, 95% CI [3.62, 4.02], has no significant correlation with brand loyalty. These results show that fan identification has an effect on brand loyalty of the respondents of this study, when activity involvement has no significant influence. Therefore, only

one of the hypotheses is accepted (H2C) when in the case of the second one (H1C) the null hypothesis has to be accepted.

4.3.4 Activity Involvement and Fan Identification levels

Additionally, an independent t-test was run to assess the difference between the levels of activity involvement and fan identification showcased by the participants of this study. Although not directly linked with any hypothesis, the t-test analysis was run to simply compare the responses of the participants of this study and see if the respondents show a higher involvement in Formula One as an activity, or do they show a higher level of fan identification, or perhaps both. The results show that there was a significant difference between Activity Involvement and Fan Identification, $t(187) = 19.08, p < 0.05$. Those results imply that the participants of this study scored high in activity involvement then in fan identification ($M = 2.43$ $SD = 1.74$). These results are surprising, concerting the fact that it was fan identification who has had, in an overall note, a better influence on dependent variables of this study. Although activity involvement has a higher influence on brand awareness, it has no significant influence on brand loyalty.

4.3.5 Overview of results

Table 4.3.5 presents a summary of the results of the study to provide an overview of the hypotheses and the findings.

Table 4.3.5

Summary of results

Hypotheses	Findings	Conclusions
H1a: Activity Involvement has a positive relation with brand recall of Formula One fans. H2a: Fan Identification has a positive relation with brand recall of Formula One fans.	Failed to accept or reject the hypothesis	The assumptions of Chi-square test of independence have been violated. Fail to accept or reject the hypothesis.
H1b: Activity Involvement has a positive relation with brand awareness of Formula One fans H2b: Fan Identification has a positive relation with brand awareness of Formula One	Hypothesis accepted	A significant relationship between activity involvement, fan identification and brand awareness has been found

fans.		
H1c: Activity Involvement has a positive relation with brand loyalty of Formula One fans	Hypothesis rejected	No significant relationship between activity involvement and brand loyalty has been found
H2c: Fan Identification has a positive relation with brand loyalty of Formula One fans.	Hypothesis accepted	A significant relationship between fan identification and brand loyalty has been found

5. Discussion and Conclusion

After the presentation of the results of this study, this chapter will provide an interpretation of those results and the answer to the research question. To do so, the section 5.1 provides the discussion of this research findings. Section 5.2 provides details of the limitations of this study, as well as recommendation for further research. Lastly, section 5.3 provides the overall conclusion of this study.

5.1 Discussion

In previous research in the field, authors such as Bachleda, Fakhar and Elouazzani (2016), Meenaghan (2001), Gwinner and Swanson (2003) and Donahay and Rosenberger III (2007) identified activity involvement and fan identification to have impact on consumer associations, purchase intentions, brand loyalty, brand recall and recognition, sponsor attitude as well as consumer satisfaction. As explained by authors such as Sutton et al. (1997), fan identification plays an important role in the lives of people who identify as fans of sports teams, and such identification can result in extreme loyalty, that can furthermore prompt the consumer to invest in the team not only emotionally, but also monetarily. It can be either showcased by purchasing team merchandise, but also by purchasing or being more favourable of the products of the sponsors of the team, due to the sponsor-team association that is argued to be generated in the process. On top of that, as argued by Beaton et al. (2011) activity involvement can provide a ground for deep emotional attachment that will result in continuous participation in the activity of choice. In the end, those two concepts can be seen as linked with each other. It can be argued that activity involvement creates the ground for fan identification to develop. Activity involvement usually concerns a wider scope, which is the sport, when fan identification although can be related to the sport as well usually goes even deeper, and it has to do with the teams, players and such. As argued by Bee and Havitz (2010), involvement and identification are the precursors to becoming a loyal fan, and as found by Cohen (2017), they can be vital to teams' and sports' economic success. Although the levels of fan identification and activity involvement differ from individual to individual, there has been limited research on the topic in the case of racing sport setting.

Therefore, this study aimed at exploring the potential relationship between the activity involvement and fan identification of fans of Formula One and its effect on brand recall, brand awareness and brand loyalty of brands involved in sponsoring F1 teams. A research question among with research objectives have been formulated to provide a set up for this study. Additionally, the research question has been broken down to 6 different hypotheses, and the potential relationship between different variables has been constructed based on theoretical framework. In this section, the main research question of this study will be answered with the use of the results from the analysis of the data. The main research question was formulated as:

RQ: To what extent does activity involvement and fan identification of Formula 1 influence the brand recall, brand awareness and brand loyalty of brands involved in F1 sponsorships?

The results of section 5 have indicated that there has been a significant influence of both activity involvement and fan identification on brand recall, brand awareness and brand loyalty of the brands that are involved in sponsoring Formula One team. For further explanation, the results will be explained in relation to the separate research objectives formulated for this study.

The objective number one of this study was to investigate if activity involvement in Formula One has an impact on the brand recall, brand awareness and brand loyalty of brands that are involved in sponsoring a Formula One team.

It was first hypothesised (H1a) that activity involvement will have a positive relation with brand recall. Due to the Chi-square test of independence being unreliable in the case of this study (violation of assumptions), the hypothesis was not possible to be tested, so it was neither accepted nor rejected. Interestingly enough, a manual comparison of how many times the brand names used in the survey were recalled during the brand recall question provides indication that some type of relationship can be assumed to exist. With RayBan being the most frequently recalled brand (18%) out of the four used in the survey, there is some sort of implication that either activity involvement, fan identification or both at the same time have an influence on brand recall, which has been consistent with the findings of previously done studies on this topic. Three out of four brands used in the survey are brands that are specific to one team only (the exemption being Puma) which means that the respondents had to be exposed enough times with those sponsorships to be able to recall those brands without a prompt. This shows that the fans are generally able to correctly recall the brands sponsoring the teams, even if some of them are less known than others. In the research regarding brand recall, most research argues there is a significant relationship between brand recall and attitude towards the event and the sponsor-event fit. Based on this a relationship with activity involvement has been assumed, because fans who are generally involved in a sport might showcase more favourable attitudes towards the events of their favourite sport. Unfortunately, this hypothesis was not able to be neither rejected nor accepted. The non-reliability of the Chi-square test of independence will be additionally addressed in the limitations and recommendations part of this chapter.

The second part of the hypothesis (H1b) related to the first objective of this study assumed that there is a positive relation between activity involvement and brand awareness. The analysis of data proved that there is in fact a significant relation between those two. The results show that activity involvement had a greater impact on the brand awareness of respondents, as in comparison to fan identification. This aligns with the previously conducted research on the topic of brand awareness. Higher activity involvement levels of the respondents imply their interests and active following of the sport in general. Because of the more general interest, it means that the respondents are exposed to more brands as in opposition of being a devoted fan of one team only, which leads to increase of their brand awareness. In simple words - they are aware of more brands because they are

repeatedly exposed to more teams and more logos than they would if they would follow only one team of their choice. It is important to acknowledge that high levels of activity involvement do not imply lower level of fan identification. As explained before, high activity involvement can provide a foreground for people to become devoted fans. But when it comes to brand awareness, activity involvement provides a better ground for association-building for a bigger number of brands than fan identification.

The third hypothesis (H1c) related to the first objective of this study assumed that there is a positive relation between activity involvement and brand loyalty. The analysis of data has shown that there is no significant relationship between activity involvement and brand loyalty. This result implies that while following the sport on a general level, it is less likely for a fan to become loyal to any brand. It can be assumed that it has to do with the notion discussed above, namely the exposure to many brands at the same time, as well as not necessarily following any team in particular, just being involved in Formula One as a sport. Previously done research on the topic of activity involvement and brand equity proves that involvement is a necessary factor when it comes to predicting consumer intention of sports fans, which might result in brand loyalty due to emotional associations. Based on the outcomes of the analysis, in case of this particular research this notion is not supported, as there has been no significant relationship proven between activity involvement and brand loyalty. The respondents of this study have generally scored lower on brand loyalty than they did on brand awareness, which can possibly explain this outcome of analysis.

The objective number two of this study was to investigate if fan identification in Formula One has an impact on the brand recall, brand awareness and brand loyalty of brands that are involved in sponsoring a Formula One team.

It was first hypothesised (H2a) that fan identification will have a positive relationship with brand recall. Once again, due to the violation of assumptions of the Chi-square test of independence, the results were unreliable, which meant the hypothesis was not possible to be tested. There is not enough substantial evidence in the collected sample that could prove neither to be true. Although the previously done research on the topic of fan identification and brand recall generally supports the notion that high fan identification can improve recall abilities of fans, it is not possible to prove so in the case of this research. This issue will be further addressed in the limitations and recommendations part of this chapter.

The second part of the hypothesis (H2b) assumed a positive relationship between fan identification and brand awareness. The analysis of data proved that there is a significant relation between those two, and the hypothesis was accepted. It is important to acknowledge that fan identification has a lower impact on brand awareness than activity involvement. As mentioned before, it can be assumed that it's due to the more general interests showcased with activity

involvement. According to previous research done on the topic of fan identification, it has been noted down that fans that score high in identification tend to exhibit a bias towards brands that become sponsors of their team or athlete of choice. It can be then assumed that such bias can be also seen in a way of paying attention to a smaller pool of brands, because they are linked with the team of their liking. Because of that, highly identified fans will showcase a lower level of brand awareness, since they are not exposed to such a vast amount of branding and sponsorship as fans that follow the sport on a more general level. Regardless of that, fan identification still has a significant relationship with brand awareness.

The last part of the hypothesis (H2c) related to this research objective assumed a positive relationship between fan identification and brand loyalty. The analysis of data has proved that there is in fact a significant relationship between these two, which meant that the hypothesis has been accepted. In contrast to activity involvement, that had no predictive power over brand loyalty, fan identification has an impact on the loyalty of fans towards brands. This relationship can be once again attributed to the difference between activity involvement and fan identification - the first one relating to a more general following of the sport than as in the case of the second one, a following more focused on a particular team or person. As explained before in the previously done research on the topic of fan identification, fans that score high in identification can exhibit high loyalty towards the team of their liking. This might then translate to high levels of brand loyalty towards the brands that sponsor their favourite team, due to strong emotional attachment to the entity of their choice. In the case of Formula One, if a fan is closely following the team of their liking, it means they will be more exposed to and more aware of a set of brands. This can showcase itself then to a small pool of brands to choose from when considering a purchase and translate into a more loyal consumer. Although this finding aligns with the previous research in the field, it is interesting considering the fact the respondents of this study scored on average higher for activity involvement than they did for fan identification. Yet, when it came to the predictive power of activity involvement, it had no significant relationship with brand loyalty.

Although the brand recall measurement has been unfortunately proven invalid, which will be addressed in the limitations part of this chapter, all of the other variables (to a degree) have been valid and reliable in terms of this research. Although the test-retest aspect of reliability has been already addressed in the reliability and validity part of the Methodology chapter (3.5), the other steps ensured that the measures and variables used in this research were not only replicable but provided outcomes that could have been analysed and interpreted as well as consisted of only relevant items that actually measured what they were supposed to.

Before the final conclusion of this study, it is necessary to discuss the limitations of this research, as well as explore possible recommendations for future investigations.

5.2 Limitations and recommendations

Now that the results of this study have been presented and interpreted, it is important to discuss the limitations of this study, as well as provide recommendations for further exploration. Those limitations that will be presented in this part of the chapter should be taken into consideration while looking at the results of the study. Some of them have been already briefly mentioned in the previous parts but will be discussed in further detail in the upcoming paragraphs.

One of the biggest limitations of this study has been the unreliability of the Chi-square test of independence. The Chi-square test of independence has been chosen to determine whether there is a relation between fan identification and activity involvement levels and brand recall. The results of the tests were unreliable due to violation of assumptions. The main assumption violated in this case was the cell frequencies, which in all cases had a count less than 5. Because of the unreliability of the Chi-square of independence, it has not been possible to critically assess if there is, or isn't a relationship between fan identification, activity involvement and brand recall.

This particular limitation might stem from another notable one: how brand recall responses have been collected from the participants of this study. The brand recall question has been an open question, that allowed the respondents to mention as many brands as they could think of in relation to Formula One. The responses to this question have been registered as a string variable, which mean it had to be changed to categorical. Despite, the violation still occurred. For future research purposes, it is recommended to reconsider the way brand recall is measured. Due to the fact that recall should be (or is in most research studies) unprompted, the question has been asked in the way it was asked. Nevertheless, if possible, making sure the brand recall data is registered in a different way can make it easier for the sake of data analysis.

Another limitation to this study is the sample size. The initial sample that was planned to be acquired during the data collection process was between 150 and 250 respondents. Although the study was able to acquire 188 respondents, which falls between the amounts mentioned above, it would have been beneficial and much more significant for the research if the number of respondents has been larger than that. The higher the number of respondents, the bigger understanding would be able to be drawn from the data they provided, and it could have introduced more variance into the sample and the answers of the respondents. Additionally, the bigger the sample, the more generalizable the research would be

There are a few possible recommendations when it comes to further research on the topic of fan identification, activity involvement, brand equity and sport (especially motorsport) sponsorships.

First recommendation for further studies will be investigating the effect of activity involvement and fan identification on brand equity, but specifically related to particular teams and their sponsors. In this particular research, photos of sponsors in relation to their teams were used while assessing brand awareness and brand loyalty. It would be an interesting topic to examine if an experiment or survey could be carried out directed at fans of particular teams and those teams' sponsors, to see if the effect is strengthened by close

following. Such research could widely broaden the understanding of fan attachment toward the team of their preference, and what type of impact does (or does not) it have on the brand awareness, brand loyalty and purchase intentions of those fans. Both teams from the top 3 as well as the lower-tier teams would be interesting subjects for such research. The first ones due to their popularity and extensive presence in the media and broadcasts, and the second one considering some of them have been in the championship for decades now. Such research could also provide more managerial insights, despite it being directed towards a particular team whose outcomes might not be directly replicable by others.

Second recommendation for the possibilities of research in the field would be investigating the effects on brand equity, but of the brands directly associated with Formula One itself (for example: Rolex, Heineken, DHL and more). Such study could provide further understanding of the role of the sponsored entity in the entire process, and especially the outcomes related to brand loyalty. Looking at brands that are directly associated with the sport instead of the team in link with activity involvement could shed more light into the feelings and thoughts of more “general” types of fans, both as addressing the academic gap in the knowledge, as well as the more societal implications of understanding the emotional and thought processes of fans. Additionally, brands such as DHL, Heineken and others that are direct sponsors of the F1 championship are global brands with strong international presence, which could be useful when looking into the diverse audience Formula One acquired over its 70 years of running.

Lastly, an obvious recommendation will be the investigation of the setting proposed in this research project. Although the models developed in this study had a low predicting score, it provides room for further research, that could be done with for example a higher number of respondents, or with other instruments to collect responses (for example on-sight interviews or experiments). It is also assumed such research could highly benefit when conducted when the racing is taking place, as in opposed to this study, that has been conducted while there has been no racing whatsoever. Additionally, additional research could provide other factors that could explain better or at least broaden the understanding of what has the biggest predicting score when it comes to the concepts of brand recall, brand awareness and brand loyalty.

5.3 Overall conclusion

In conclusion, this study improves our understanding of the relationship between fan identification, activity involvement, brand equity and sports sponsorship. Evidence has been provided that supports the notion that both fan identification and activity involvement have an impact on brand awareness and brand loyalty, but each with its own differences. However, the effects of fan identification and activity involvement could not be proved for brand recall, a limitation that will hopefully be solved with further research in the field. Previous research in the field identified the gaps in knowledge as: limited research with multiple sponsoring brands present at the same time, main focus on old types of sponsorship (tobacco and alcohol) as well as not enough focus on brands sponsoring F1 teams instead of being associated with the sport in general. This study aimed at solving those knowledge gaps by looking at different brands that sponsor actual Formula 1 teams as

well included brands from different sectors: food as well as fashion industries, which slowly came to replace the tobacco and alcohol sponsorships so prominent in the sport till 2006.

If one would like to theorize about the interpretation of the results of the study, it can be perhaps that activity involvement has a greater impact on brand awareness because one is “following the sport”, which means that he or she is exposed to more brands because they watch the overall racing, as opposed to fan identification, which has a greater impact on brand loyalty because one is “following the team”, since he or she is a fan of one team (or more) and is more willing to purchase products of the sponsors related to their team of choice. Yet, such claims should definitely be explored with more research into the behaviour and preferences of sport fans. Additionally, the limitations and recommendations listed in the previous parts of the chapter can provide a solid basis for further studies of topic. Further, when it comes to the generalizability of the study, it could potentially be hard to generalize outcomes of a study with such a vast international sample, yet there are aspects of the study that need to be discussed in that context. Based on the international sample gathered for the research, from various age groups and different genders, it can be generally assumed that due to their high exposure to many brands, the brand awareness of Formula One fans is greater than their brand loyalty. Their brand loyalty can be influenced by their fan identification levels, just as much as their brand awareness can be influenced by their activity involvement. As mentioned above, this can be explained by the team versus sport aspect. This research has acquired respondents from different countries, and although to prove those results true a larger sample would be needed, it can be possibly generalised that the above-mentioned scenario can be the case across nations, because of the one unifying component - Formula One fanship. Although the fans can be externally influenced by different factors (for example how popular the sport is in their country, if they have a driver representing their country) the level of emotional involvement and passion for a sport lays in the hand of individual. 188 respondents that took part in this study on a general note scored similarly (a higher level of brand awareness with lower level of brand loyalty; higher levels of activity involvement with lower level of fan identification) despite their different backgrounds (different age, different nationality and different gender). Because of the mixture of teams used in the study (both from top 3 and lower tier), it can be assumed that these findings will generally be replicable if other teams from the championship will be used. Furthermore, because the outcomes have been very similar across the nations (British and Polish being the biggest groups of respondents with comparable results) it can be assumed that such outcomes can be replicated among other nations as well. Additionally, the validity component ensures that the study can be replicated in another setting, because it draws from previously established measures and items accessible within the field of the study.

As an addition, it must be acknowledged that the COVID-19 pandemic that spread out during the first months of 2020 definitely had an impact on the results of the study. Due to many

countries going into lockdown, many people found themselves either working or studying at home, as well as every sport league got cancelled until further notice. Because of the absence of the sport (that has been difficult especially for racing fans, as far as it can be seen over on social media) as well as a lot of time at hands, it was definitely much easier to acquire respondents that it could have been in an ordinary setting. Since people were missing F1, they were more excited to answer the questionnaire alongside participating in other unrelated to it activities to fill in the time that passed without their favourite sport.

Nevertheless, although this study generally supports the findings of previous research in the field, it provides more understanding of the relationship in a setting not so frequently explored, which is automobile racing, especially Formula One. In regard to managerial implications, it is important for the brands (and teams as well) to critically assess what side of brand equity they want to improve and strengthen, and then build up a plan accordingly. As mentioned, brand awareness has a stronger relationship with activity involvement, while brand loyalty has a stronger relationship with fan identification, so it is important to have a proper understanding of what type of “fan” the company (in partnership with the team they decide to or are approached to sponsor) wants to target. Despite a low predictive power of models developed in this study, fan identification and activity involvement can become crucial elements while building up a presence in the world of sports. Sponsorships are a very particular way of advertising, and if done correctly, can provide a lot of value for companies that seek to utilise such solutions.

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Appendix A: Questionnaire

MA Thesis Survey - Formula One Sponsorship

Dear participant!

This questionnaire is a part of my Master thesis on the topic of sport sponsorship focusing on the Formula One championship that I'm currently researching at the Erasmus University in Rotterdam, the Netherlands.

The purpose of this study is to gain insights into the processing of sport sponsorship by fans of F1.

By participating in this survey you agree to the use of the information for academic purposes. This survey is fully anonymous and will take you less than 5 minutes to complete.

If you have any questions regarding the research, you can contact me via email at:
s.monterian@gmail.com

End of Block: Introduction

Start of Block: Demographics information

Question 1: What is your gender?

☐ Male (1)

☐ Female (2)

Question 2: What is your age?

Question 3: What is your nationality?

End of Block: Demographics information

Start of Block: Exposure

Question 4: How many years (roughly) have you been following F1?

End of Block: Exposure

Start of Block: Activity involvement

Question 5: Please indicate how do you feel about following statements:

	Strongly Disagree (1)	Mostly Disagree (2)	Somewhat Disagree (3)	Neither Agree nor Disagree (4)	Somewhat Agree (5)	Mostly Agree (6)	Strongly Agree (7)
Formula One is important to me (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I like to engage in Formula One (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Formula One means a lot to me (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am very interested in Formula One (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
For me, Formula One is exciting (5)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

End of Block: Activity involvement

Start of Block: Fan Identification

Question 6: Which teams are you a fan of? (You can choose more than one)

- ☐ Mercedes F1 (Hamilton - Bottas) (1)
- ☐ Scuderia Ferrari (Vettel - Leclerc) (2)
- ☐ Red Bull Racing (Verstappen - Gasly - Albon) (3)
- ☐ Renault F1 (Ricciardo - Hulkenberg) (4)
- ☐ McLaren F1 (Sainz JR - Norris) (5)
- ☐ Scuderia Toro Rosso (Kvyat - Albon - Gasly) (6)
- ☐ Haas F1 (Grosjean - Magnussen) (7)
- ☐ Alfa Romeo (Raikkonen - Giovinazzi) (8)
- ☐ Williams F1 (Rusell - Kubica) (9)
- ☐ Racing Point (Stroll - Perez) (10)

Question 7: Please indicate how you feel about following statements:

	Strongly Disagree (1)	Mostly Disagree (2)	Somewhat Disagree (3)	Neither Agree or Disagree (4)	Somewhat Agree (5)	Mostly Agree (6)	Strongly agree (7)
When someone criticises my favourite team, it feels like a personal insult (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am very interested in what others think about my favourite team (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
When I talk about the my favourite team, I usually say ``we'' rather than ``they" (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My favourite team's successes are my successes (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
When someone praises my favourite team, it feels like a personal complement (5)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
If a story in the media criticised my favourite	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

team, I
would feel
embarrassed
(6)

End of Block: Fan Identification

Start of Block: Brand recall

Question 8: Which F1 teams sponsoring brands are you able to recall? (Write as many as come to your mind)

End of Block: Brand recall

Start of Block: Info - pictures

In the upcoming part you will be presented with pictures of a few Formula One teams and their sponsors, as well as some questions. Please indicate how do you feel about the following statements in relation to the presented sponsors.

End of Block: Info - pictures

Start of Block: Ferrari



Question 9: Please indicate how do you feel about following statements:

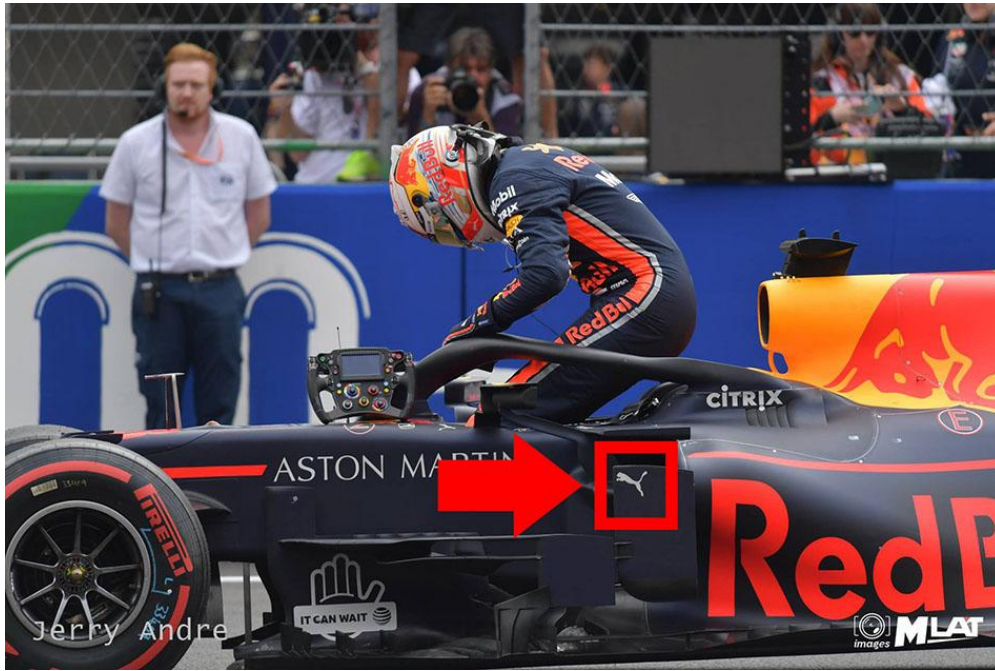
	Strongly disagree (1)	Mostly Disagree (2)	Somewhat disagree (3)	Neither agree nor disagree (4)	Somewhat agree (5)	Mostly Agree (6)	Strongly agree (7)
Are you familiar with the company/brand Ray Ban and their team sponsorship? (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Some characteristics of Ray Ban come to my mind quickly (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Question 10: Please indicate how you feel about following statements:

	Strongly disagree (1)	Mostly Disagree (2)	Somewhat disagree (3)	Neither agree nor disagree (4)	Somewhat agree (5)	Mostly Agree (6)	Strongly agree (7)
I consider myself to be loyal to Ray Ban (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Ray Ban would be my first choice (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I will not buy other brands if Ray Ban is available (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

End of Block: Ferrari

Start of Block: Red Bull



Question 11: Please indicate how do you feel about following statements:

	Strongly disagree (1)	Mostly Disagree (2)	Somewhat disagree (3)	Neither agree nor disagree (4)	Somewhat agree (5)	Mostly Agree (6)	Strongly agree (7)
Are you familiar with the company/brand Puma and their team sponsorship? (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Some characteristics of Puma come to my mind quickly (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Question 12: Please indicate how you feel about following statements:

	Strongly disagree (1)	Mostly Disagree (2)	Somewhat disagree (3)	Neither agree nor disagree (4)	Somewhat agree (5)	Mostly Agree (6)	Strongly agree (7)
I consider myself to be loyal to Puma (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Puma would be my first choice (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I will not buy other brands if Puma is available (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

End of Block: Red Bull

Start of Block: McLaren



Question 13: Please indicate how do you feel about following statements:

	Strongly disagree (1)	Mostly Disagree (2)	Somewhat disagree (3)	Neither agree nor disagree (4)	Somewhat agree (5)	Mostly Agree (6)	Strongly agree (7)
Are you familiar with the company/brand Coca Cola and their team sponsorship? (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Some characteristics of Coca Cola come to my mind quickly (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Question 14: Please indicate how you feel about following statements:

	Strongly disagree (1)	Mostly Disagree (2)	Somewhat disagree (3)	Neither agree nor disagree (4)	Somewhat agree (5)	Mostly Agree (6)	Strongly agree (7)
I consider myself to be loyal to Coca Cola (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Coca Cola would be my first choice (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I will not buy other brands if Coca Cola is available (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

End of Block: McLaren

Start of Block: Haas



Question 15: Please indicate how do you feel about following statements:

	Strongly disagree (1)	Mostly Disagree (2)	Somewhat disagree (3)	Neither agree nor disagree (4)	Somewhat agree (5)	Mostly Agree (6)	Strongly agree (7)
Are you familiar with the company/brand Jack & Jones and their team sponsorship? (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Some characteristics of Jack & Jones come to my mind quickly (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Question 16: Please indicate how you feel about following statements:

	Strongly disagree (1)	Mostly Disagree (2)	Somewhat disagree (3)	Neither agree nor disagree (4)	Somewhat agree (5)	Mostly Agree (6)	Strongly agree (7)
I consider myself to be loyal to Jack & Jones (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Jack & Jones would be my first choice (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I will not buy other brands if Jack & Jones is available (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

End of Block: Haas

Thank you for your participation in this research!

Picture credits: Jerry Andre for Motorlat.com

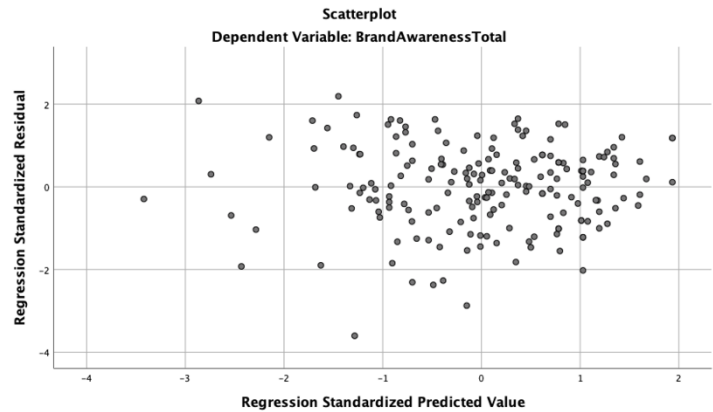
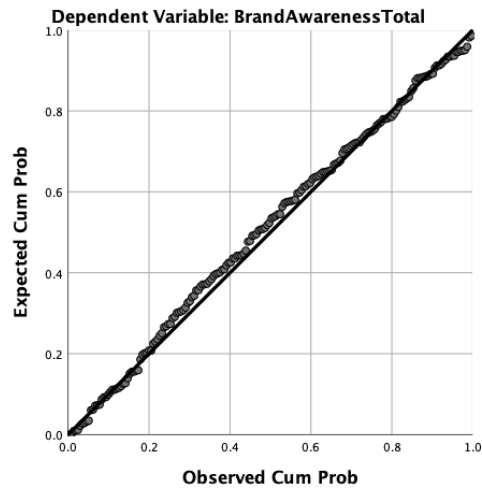
Big thank you to Motorlat.com for allowing me to use the pictures.

Appendix B: P-P Plots and Scatterplots SPSS Outputs

H1b: Activity Involvement has a positive relation with brand awareness of Formula One fans

H2b: Fan Identification has a positive relation with brand awareness of Formula One fans.

Normal P-P Plot of Regression Standardized Residual



H1c: Activity Involvement has a positive relation with brand loyalty of Formula One fans

H2c: Fan Identification has a positive relation with brand loyalty of Formula One fans.

Normal P-P Plot of Regression Standardized Residual

