

# Social and educational outcomes at Mercedes F1 team: an explanatory study of team identification in the context of Formula

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## **ABSTRACT**

**Title:** Social and educational outcomes at Mercedes F1 team: an explanatory study of team identification in the context of Formula

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The global interest in Formula 1 and its economic relevance has grown steadily in recent years. Special focus was given to the Mercedes team due to its utter sporting dominance in the past. For those reasons, the aim of the thesis is two-folded: On the one hand, it analyses the Mercedes F1 team to derive managerial implications and best practices to ensure sporting, financial and socio-educational outcomes of an F1 organization. For this purpose, the 4-O model is applied to aggregate an overview about the team's performances in the four different areas. On the other hand, the thesis aims to determine the most and least important drivers for fans to identify with a F1 team. In that regard, a team identification survey is conducted to investigate the team-related drivers that impact fans' team identification process. The 4-O model analysis of the Mercedes F1 team indicates that sporting, financial and socio-educational outcomes are interrelated and influence each other. Therefore, the thesis recommends a holistic organizational strategy far beyond the sporting targets to reinforce a long-term F1 viability. The F1 fan survey reveals that next to the team performance, F1 drivers themselves are important factors for fans to identify with a F1 team. As a consequence, the thesis suggests to focus on those and other determined key identification drivers to leverage a team's fan base.

## SUMÁRIO

**Título:** Resultados sociais e educacionais na equipa Mercedes F1: um estudo explicativo de identificação da equipa no contexto da Fórmula

**Autor:** Eric Haselier

**Palavras-chave:** Modelo 4-O, Fórmula 1, Identificação de Equipas, Gestão de Organizações Desportivas

O interesse global na Fórmula 1 e a sua relevância económica tem crescido de forma constante nos últimos anos. Foi dada uma atenção especial à equipa Mercedes devido ao seu total domínio desportivo no passado. Por estas razões, o objectivo da tese é duplo: Por um lado, analisa a equipa de F1 da Mercedes para derivar implicações de gestão e melhores práticas para assegurar os resultados desportivos, financeiros e sócio-educativos de uma organização de F1. Para este efeito, o modelo 4-O é aplicado para agregar uma visão geral sobre os desempenhos da equipa nas quatro áreas diferentes. Por outro lado, a tese visa determinar os condutores mais e menos importantes para os adeptos se identificarem com uma equipa de F1. A este respeito, é realizado um inquérito de identificação da equipa para investigar os condutores relacionados com a equipa que têm impacto no processo de identificação da equipa dos adeptos. A análise do modelo 4-O da equipa de F1 da Mercedes indica que os resultados desportivos, financeiros e sócio-educativos estão inter-relacionados e influenciam-se mutuamente. Portanto, a tese recomenda uma estratégia organizacional holística muito para além dos objectivos desportivos para reforçar uma viabilidade a longo prazo da F1. O inquérito aos fãs de F1 revela que, ao lado do desempenho da equipa, os próprios condutores de F1 são factores importantes para a identificação da equipa de F1. Assim, a tese sugere que se concentre naqueles e noutros factores-chave de identificação determinados para alavancar a base de adeptos de uma equipa.

## TABLE OF CONTENT

List of Tables.....	I
List of Figures.....	II
List of Abbreviations.....	III
<b>Introduction.....</b>	<b>1</b>
<i>I Relevance and actuality of research subject.....</i>	<i>1</i>
<i>II Research goal and structure of thesis .....</i>	<i>2</i>
<b>Chapter 1: 4-O Model of the Mercedes-AMG Petronas F1 Team .....</b>	<b>2</b>
<b>1.1 Theoretical background of the 4-O model .....</b>	<b>2</b>
1.1.1 The scope of analysis.....	3
<b>1.2 Introduction to motorsport world: The FIA, FOM, and F1 teams .....</b>	<b>4</b>
<b>1.3 The Mercedes-AMG Petronas F1 Team and its organizational structure .....</b>	<b>4</b>
<b>1.4 Sport outcomes .....</b>	<b>6</b>
1.4.1 Historical and current F1 racing successes .....	6
1.4.2 The impact on competitive balance .....	9
1.4.3 The Mercedes junior programme.....	10
1.4.4 F1 E-sports: Off-track sporting performance .....	12
<b>1.5 Financial outcomes.....</b>	<b>13</b>
1.5.1 Mercedes' current financial situation .....	13
1.5.2 Major revenue and costs streams .....	14
1.5.3 Drivers' and staffs' salaries.....	17
<b>1.6 Educational outcomes.....</b>	<b>18</b>
1.6.1 The Mercedes F1 team as a forerunner for change .....	18
1.6.2 Corporate social responsibility: Countdown to zero .....	20
1.6.3 The educational mission of Lewis Hamilton.....	21
<b>1.7 Social and community outcomes .....</b>	<b>22</b>
1.7.1 Stakeholder management: Mercedes' shareholders and community .....	22
1.7.2 International presence .....	23
1.7.3 Mercedes' global fan strategy .....	24
<b>Chapter 2: Literature review .....</b>	<b>25</b>
<b>2.1 Team identification .....</b>	<b>25</b>
2.1.1 The importance of fans in sports .....	25
2.1.2 Definition of team identification .....	26
<b>2.2 Drivers of team identification .....</b>	<b>27</b>
2.2.1 Team-related causes of team identification .....	28
2.2.2 Other causes of team identification .....	30
<b>2.3 Effects of team identification in sports.....</b>	<b>32</b>
2.3.1 Team identification and consumption.....	32
2.3.2 Team identification and other effects.....	34

<b>Chapter 3: Research - methodology &amp; results .....</b>	<b>35</b>
<b><i>3.1 Research aim.....</i></b>	<b>35</b>
<b><i>3.2 Approach and design .....</i></b>	<b>36</b>
<b><i>3.3 Description of survey and data collection .....</i></b>	<b>43</b>
<b>3.3.1 Description of survey .....</b>	<b>43</b>
<b>3.3.2 Data collection .....</b>	<b>44</b>
<b><i>3.4 Results of survey.....</i></b>	<b>44</b>
<b>3.4.1 Sample.....</b>	<b>44</b>
<b>3.4.2 Driver analysis.....</b>	<b>45</b>
<b>3.4.3 Discussion of results.....</b>	<b>47</b>
<b><i>3.5 Segmentation analysis.....</i></b>	<b>50</b>
<b>3.5.1 Segmentation by F1 race attendance: Results and discussion .....</b>	<b>50</b>
<b>3.5.2 Segmentation by social agent influence: Results and discussion .....</b>	<b>52</b>
<b>Chapter 4: Conclusion and implications.....</b>	<b>55</b>
<b><i>4.1 Implications for management.....</i></b>	<b>55</b>
<b><i>4.2 Limitations and implications for future research.....</i></b>	<b>56</b>
<b><i>4.3 Conclusion.....</i></b>	<b>56</b>
<b>Bibliography.....</b>	<b>IV</b>
<b>Tables and Figures.....</b>	<b>XXXV</b>

## LIST OF TABLES

<b>Table 1:</b>	Constructors' and drivers' championship by team since 1950	<b>XXXV</b>
<b>Table 2:</b>	Mercedes driver from 2010 onwards and their personal achievements	<b>XXXV</b>
<b>Table 3:</b>	Vision, mission, purpose, values, ethos & season intent of Mercedes team	<b>XXXVI</b>
<b>Table 4:</b>	Constructors' and drivers' championship since 2010	<b>XXXVIII</b>
<b>Table 5:</b>	Team performance per season since 2010	<b>XXXVIII</b>
<b>Table 6:</b>	Comparison of dominant F1 eras by percentage share	<b>XXXIX</b>
<b>Table 7:</b>	Top 5 teams with most races wins during a single season (%)	<b>XXXIX</b>
<b>Table 8:</b>	Top 5 teams with most laps led during a single season (%)	<b>XXXIX</b>
<b>Table 9:</b>	Top 5 teams with most pole positions during a season (%)	<b>XL</b>
<b>Table 10:</b>	Top 5 teams with most podiums during a single season (%)	<b>XL</b>
<b>Table 11:</b>	Top 5 teams with most constructions' points gained during a single racing season (%)	<b>XL</b>
<b>Table 12:</b>	Top 5 teams with highest point difference to 2nd constructors' place during a single season (%)	<b>XLI</b>
<b>Table 13:</b>	Mercedes's most dominant years (2014-2016)	<b>XLI</b>
<b>Table 14:</b>	Talent Programme drivers who raced in F1 since 2010	<b>XLI</b>
<b>Table 15:</b>	E-sports Constructors Standings by year	<b>XLII</b>
<b>Table 16:</b>	Administrative expenses to revenue ratio	<b>XLII</b>
<b>Table 17:</b>	Partners and suppliers of the Mercedes team by level	<b>XLIII</b>
<b>Table 18:</b>	Examples of operating costs by type	<b>XLIV</b>
<b>Table 19:</b>	Overview of drivers' and staff's expenses	<b>XLIV</b>
<b>Table 20:</b>	Driver salary of top 5 teams and cost per point in 2021	<b>XLIV</b>
<b>Table 21:</b>	Focus of Mercedes' charitable initiatives and examples	<b>XLV</b>
<b>Table 22:</b>	Mercedes's owned and supported initiatives promoting diversity and inclusion	<b>XLV</b>

<b>Table 23:</b>	Presence of CSR issues	<b>XLVI</b>
<b>Table 24:</b>	Environmental commitment by team	<b>XLVII</b>
<b>Table 25:</b>	Examples of Lewis Hamilton’s socio-educational activities	<b>XLVIII</b>
<b>Table 26:</b>	Social media presence by platform	<b>XLIX</b>
<b>Table 27:</b>	Team performance measures	<b>XLIX</b>
<b>Table 28:</b>	Individual characteristic measures	<b>L</b>
<b>Table 29:</b>	Managerial and organizational measures	<b>LI</b>
<b>Table 30:</b>	Formula 1: Drive-to-Survive measures	<b>LIII</b>
<b>Table 31:</b>	Detailed overview of questionnaire	<b>LIV</b>
<b>Table 32:</b>	Gender distribution	<b>LVI</b>
<b>Table 33:</b>	Age distribution	<b>LVI</b>
<b>Table 34:</b>	Country of residence distribution	<b>LVII</b>
<b>Table 35:</b>	Favourite team distribution	<b>LVII</b>
<b>Table 36:</b>	Employment distribution	<b>LVII</b>
<b>Table 37:</b>	Characteristics of fans	<b>LVIII</b>
<b>Table 38:</b>	Average importance of each driver	<b>LIX</b>
<b>Table 39:</b>	Average importance of each Drive-To-Survive-related driver	<b>LX</b>
<b>Table 40:</b>	Average importance of each driver by 4-O model categories	<b>LXI</b>
<b>Table 41:</b>	Average importance of each driver by F1 race attended	<b>LXII</b>
<b>Table 42:</b>	Average importance of each driver by influence of social agents	<b>LXIII</b>
<b>Table 43:</b>	Overview of 4-O model outcomes since 2010	<b>LXIV</b>

## LIST OF FIGURES

<b>Figure 1:</b>	Overview of the 4-0 Model	<b>LXV</b>
<b>Figure 2:</b>	FIA single-seater pyramid	<b>LXV</b>
<b>Figure 3:</b>	The Mercedes-AMG Petronas F1 Team and its organizational structure	<b>LXVI</b>
<b>Figure 4:</b>	Overview of financial performance between 2010 - 2020	<b>LXVI</b>
<b>Figure 5:</b>	Development of asset structure	<b>LXVII</b>
<b>Figure 6:</b>	Development of financing structure	<b>LXVII</b>
<b>Figure 7:</b>	Industry comparison of used debt and debt to revenue ratio (2019)	<b>LXVIII</b>
<b>Figure 8:</b>	Overview of major revenue streams (2018 - 2020)	<b>LXVIII</b>
<b>Figure 9:</b>	Overview of major cost streams (2018 - 2020)	<b>LXIX</b>
<b>Figure 10:</b>	Overview of Mercedes' stakeholder	<b>LXIX</b>
<b>Figure 11:</b>	Team identification definitions	<b>LXX</b>

**LIST OF ABBREVIATIONS**

CSR	Corporate social responsibility
FIA	Fédération Internationale de l'Automobile
FOM	Formula One Group/Management
F1	The Formula One World Championship
Formula 1	The Formula One World Championship
HHP	Mercedes AMG High Performance Powertrains
HICB	Herfindahl Index for Competitive Balance
Mercedes team	Mercedes-AMG Petronas Formula One Team

## **Introduction**

### **I Relevance and actuality of research subject**

The Formula One World Championship (F1 or Formula 1) is a booming industry of enormous economic and social importance: F1 is now, alongside the Olympic Games and the FIFA World Cup, one of the most widely broadcasted sport events on the planet: The 2021 season had over 1.55 billion TV viewers across 200 territories, over 1.5 billion aggregated social media engagements and 4 million live spectators despite Covid-19 regulations (Cooper, 2022a; Liberty Media, 2021; Statista, 2022a; Statista, 2022b). Economically, the Formula 1 Group's revenues increased steadily between 2017 and 2019 and also rebounded to \$2.136 billion in 2021 after a massive drop in 2020 due to Covid-19 (Statista 2022b; Liberty Media, 2022a).

Undoubtedly, the teams with their drivers are the most important component of F1's recent success and contribute a great deal to the entertainment and fan appeal. Here, the Mercedes-AMG Petronas Formula One Team (Mercedes team) stands out as one of the best-known and important teams for the F1 racing series: Not only has it dominated the F1 in recent years, but also has it created a powerful impact on fan support and socio-educational change (Mercedes F1, 2022). For example, the Mercedes team has become the first F1 team to reach nine million followers on Instagram and was the second F1 team to publish a corporate social responsibility (CSR) report (Mercedes F1, 2021a and 2022b). This special status of the Mercedes team in the increasingly popular F1 industry makes it highly attractive to conduct a more detailed team analysis in order to obtain an up-to-date picture of the sporting, financial, social, and educational outcomes.

In addition, there is another key component to the F1 world: The fan. Like in any other sport, F1 fans are an essential stakeholder onside and offside the live sporting events and create a unique atmosphere during races, especially for their favourite teams and drivers. Lewis Hamilton summed up this unique relationship between F1 and fans when asked about races held without spectators due to Covid-19 regulations:

“It gave me a really empty feeling. [...] The fans really make the race.” (Morlidge, 2020, p1).

However, fan support and identification with a team have also to be valued from a more holistic picture: In recent times where church and politics are increasingly losing their traditional role in social cohesion, sport has an even more important role to play. Federations, leagues, teams and even athletes have the opportunity to create belonging, bring order in daily life and at the same time can maintain the social fabric by conveying joy, values, and morals (Westemeyer, 2021). This is especially true for global sports like F1. Lastly and from a research perspective,

team identification in F1 has been little studied, which makes it appealing to advance the research field in this regard.

## **II Research goal and structure of thesis**

By analysing the Mercedes F1 team performance and conducting a survey about the key drivers of team identification in F1, this thesis provides sport managers and researchers with the following:

- (1) An up-to-date overview of the Mercedes team outcomes to derive managerial implications and best practises to ensure sporting and financial goals
- (2) The most crucial team-related drivers for team identification in the F1 context to derive managerial implications to leverage the fan base.

The structure of this thesis is twofold. First, the Mercedes team is analysed on the basis of the 4-O model in terms of sporting, financial, educational, and social outcomes (Chapter 1). Second, the relevant literature about team identification in sport is reviewed to gain a deep understanding about the causes and consequences of team identification (Chapter 2). By paying particular attention to team-related drivers of team identification, the connection to the Mercedes team analysis is drawn. Third, the survey methodology is described and the results of the fan survey are discussed (Chapter 3). Finally, implications on how to attract fans and strengthen team identification for F1 teams and sport management are drawn (Chapter 4). In this way, the thesis will contribute on the one hand to the sport management insights of Formula 1 and on the other hand to the team identification literature in the unexplored field of F1.

### **Chapter 1: 4-O Model of the Mercedes-AMG Petronas F1 Team**

#### **1.1 Theoretical background of the 4-O model**

The 4-O Model is a framework developed by Professor Dino Ruta (SDA Bocconi - School of Management) in the field of sport management (Ruta, 2022). The model aims to analyse sport organizations (e.g., F1 teams, football or basketball clubs) in a holistic approach and to derive managerial implications regarding sporting, economic and, socio-educational strategies.

It consists of four domains, which in turn contain different subcategories for the analysis of a sport organization. For a comprehensive overview refer to figure 1. The model is divided into the domains as follows:

- 1) ***Sport outcomes*** including performance on the pitch, impact on competitive balance and youth development

- 2) *Financial outcomes* including revenue streams, debt management and salaries, and transfers
- 3) *Educational outcomes* including quality of initiatives in transferring organizational legacy and sport values, players' and managers' behaviours on and off the pitch, and decisions based on sustainability principles
- 4) *Social and community outcomes* including stakeholders' degree of involvement and satisfaction, international presence, and reputation among stakeholders

Social and educational outcomes differ in the following areas: Social outcomes enable and facilitate human relations and refer to doing something for society (Ruta, 2022). They can be defined as beneficial outcomes resulting from the prosocial behaviour of a sport organization which are reaped by individuals and/or other organizations (Stephan et al. 2016). Those initiatives mainly promote social engagement and aim to nurture values such as aggregation and solidarity (Ruta, 2022). Educational outcomes, on the other hand, are related to the educational aspects of sport and have “the power to provide a universal framework for learning values, [ultimately] contributing to the development of soft skills needed for responsible citizenships” (UNESCO, 2021, para. 2). Educational initiatives aim to promote values such as respect, inclusion, fairness or commitment (Ruta, 2022).

In the end, all sub-analyses combined form an extensive representation of the sport organization's management decisions. In addition, it shows interdependencies and synergies between the domains of sport, economics, and social affairs of that particular sport team. This detailed assessment provides internal and external stakeholders with the following insights: Internal decision-makers can understand and improve their own actions, while the external public (e.g., researchers and other sport managers) gains a better understanding of best practices and potential fields of failure in the respective sports industry. Accordingly, it contributes to strengthening the managerial capabilities in sport organization.

### **1.1.1 The scope of analysis**

In the following, the 4-O model is applied to the Mercedes F1 team. After a brief explanation of the F1 sports industry and the relevant stakeholders, all four domains are analysed with regard to the era of the Mercedes team after its re-entry in F1 in 2010. The 2022 racing season is generally not taken into account and only considered if applicable. In general, the 4-O analysis will be conducted in form of a secondary qualitative research: Sources used include online articles, case studies, websites, and academic literature.

## **1.2 Introduction to motorsport world: The FIA, FOM, and F1 teams**

The FIA Formula One World Championship is a racing series authorised and organized by the Fédération Internationale de l'Automobile (FIA), a global federation with the aim to promote motor racing (FIA, 2022a, 2022b and 2022c). F1 is the top tier of the FIA single-seater pyramid race series (compare figure 2) and follows the vision to “unleash the greatest racing spectacle on the planet” (FOM, 2020a, p18). It has been established in 1950 and is ever since “widely recognised as the world’s most prestigious motor racing competition, as well as the world’s most popular annual sporting series” (FIA, 2022a, para. 1).

Under the so-called 100-Year Agreement, the FIA granted exclusive commercial rights to the Formula One Group/Management (FOM) (Liberty Media, 2021). Since 2017, the FOM is fully owned by the Liberty Media Corporation and trades on the Nasdaq stock exchange market (Liberty Media, 2022b). In the fiscal year 2021, the FOM’s revenues amounted to \$2.136 billion with an operating income of \$92 million (Liberty Media, 2022a).

A F1 Grand-Prix race weekend consists of several practice sessions, a qualifying session to determine the starting positions on race day, and the actual race (FIA, 2022b). Since 2021 some Grand-Prix races have additionally featured a so-called sprint race between the qualifying session and the final race to enrich the experience during the race weekend (FOM, 2022a). Nowadays, the F1 hosts 22 Grand-Prix races in 22 countries around all five continents (racing series 2021) which are broadcasted in more than 200 territories worldwide (FOM, 2021). With its more than 500 million global fans and 42.1 million social media followers, the F1 has become the fastest growing major sport event series in the world (FOM, 2021a and n2021b). On average each 2021 Grand-Prix was followed by 70.9 million fans on TV, with more than 198.000 spectators watching live from the stands (FOM, 2021a and 2021b).

Overall, the F1 is a closed league with currently ten team, each of which operates two cars and has two drivers under contract (FOM, 2022b). All teams compete for both the constructors' championship and the drivers' championship (FIA, 2022b). Drivers receive points according to their final position in each race held which at the end of a racing season determine the drivers champion (most points for single driver) and the winner of the team construction championship (most points for both drivers) (FIA, 2022b).

## **1.3 The Mercedes-AMG Petronas F1 Team and its organizational structure**

The German automotive parent company Mercedes Benz (Daimler AG) has been heavily involved in motorsport for more than 120 years (Daimler AG, 2020). Since the inception of F1 in 1950, Mercedes-Benz has repeatedly been active in the F1 racing series as

an engine supplier or partner for other teams but also with an own F1 team (Daimler AG, 2010; Mercedes F1, 2022). With the start of the 2010 F1 season, Mercedes-Benz decided to participated again with an own work team and took over the British racing team Brawn GP (Mercedes F1, 2019a). The team today known as the Mercedes-AMG Petronas Formula One Team was born.

The team's operating headquarter is located in Brackley (United Kingdom) with its technology centres for design, research, production, assembly, and operations (Mercedes F1, 2022d). In Brixworth (United Kingdom), the Mercedes AMG High Performance Powertrains (HPP) develops the engines for every Mercedes-Benz badged F1 car (Mercedes F1, 2022e). However, it is an independent legal entity and a fully owned subsidiary of the Daimler AG (Mercedes HPP, 2022). HPP does not only supply the Mercedes team with F1 power units, but also the teams of McLaren, Aston Martin, and Williams. Hence, Mercedes is with Ferrari the only team that equips other teams with F1 race engines (RaceFans, 2022).

With regards to its organizational structure, the team is owned equally by Daimler AG, INEOS, and Toto Wolff (current team principal) and is registered in the United Kingdom as Mercedes-Benz Grand Prix Ltd (Mercedes F1, 2020a and 2021b). The team's board of directors is composed of seven members representing the interests of the three shareholders (Mercedes F1, 2022f). The most important managing directors are Toto Wolff, team principal and CEO, James Allison, Chief Technical Officer, and Mark Ellis, Technical Director responsible for the operating business (Mercedes F1, 2022g, 2022h and 2022i). Overall, the Mercedes team employs around 1000 workers in design, manufacturing, engineering, administrative, and sporting functions including the current drivers Lewis Hamilton and George Russel (Mercedes F1, 2021b and 2022f).

Through its affiliation with the parent company Mercedes Benz, the Mercedes F1 team is also closely rooted to the Mercedes-EQ Formula E Team. Although, the Formula E team is per se an independent Daimler AG entity (Mercedes-Benz Formula E Ltd.), both teams have several operational overlaps (e.g., same headquarter in Brackley), resulting in cross-functional synergies (Daimler AG, 2022a; FIA, 2022d).

In summary, the following statement of the former Daimler chairman Dieter Zetsche describes the F1 team's position within the Mercedes-Benz organization best:

“We build race cars and, we build road cars. This is our core business; it is not a marketing exercise for us. It is the core business.” (Spurgeon, 2016, para. 1).

For a more detailed organizational representation of the Mercedes F1 team refer to figure 3.

## **1.4 Sport outcomes**

In this subchapter, the Mercedes team's sporting performance, its impact on the competitive balance as well as the junior driver development will be analysed in more detail.

### **1.4.1 Historical and current F1 racing successes**

The Mercedes F1 team is one of the most successful teams in F1 history and has won until now eight constructor championships and nine driver championships, ranking as the fourth most decorated team in F1 (compare table 1) (FOM, 2022c; Lugert, 2021). Also known as the Silver Arrows, the team achieved so far 115 race wins, 127 pole positions, and 85 fastest laps (FOM, 2022c). This is noteworthy, because Mercedes as a works team, has only competed in 15 of the 72 F1 championships (1954 until 1955 and 2010 until today), giving it a seasonal victory ratio of 53% regarding the constructors' championship (FOM, 2022d; Mercedes, 2022c). A large part of the successes can be attributed to the era from 2010 onwards, in which the team won eight consecutive constructor championships (2014-2021) and seven of the nine driver championships (2014-2020) (FOM, 2022e).

The reasons for the sporting dominance since the re-entry into F1 are manifold, but are above all particularly connected with Toto Wolff and his leadership style. First, the team was able to benefit during the first years after the takeover from the experience and expertise of seven-time world champion Michael Schumacher (driver from 2010 to 2012) and Niki Lauda (three-time world champion) as head of the supervisory board (Donaldson, 2015, 2018; FOM, 2022e). In these years, the team finished fourth (2010 and 2011) and fifth (2012) in the constructors' championship and gained valuable lessons in car design and team processes (FOM, 2022d).

Secondly, the team has had very talented drivers in their cockpits. Besides F1 legend Michael Schumacher, drivers like Nico Rosberg, Lewis Hamilton or George Russel (all former F4, F3 or F2 champions – compare table 2) signed with the team (FOM, 2022f; Motorsport Magazin, 2022a and 2022b). Compared to other teams, Mercedes' drivers also stay on average longer with the team and thus can adapt better to the Mercedes culture.

Thirdly, Mercedes was best to respond to FIA's major regulation changes in the 2014 season (obligation to use a hybrid engine) and developed a better power unit than other teams for the following race seasons (Elberse and Vicente, 2022). It was based on the strategy to build the engines in-house at HHP instead of purchasing and to merge the power unit with the car's chassis and aerodynamics (Jenkins, 2020). This was another important cornerstone to the

success, as the performance of a F1 car is fundamental to winning as chief operating officer Rob Thomas illustrates:

“If you have a car that is, say half a second slower than your competitor’s because the aerodynamics [and power unit] aren’t right, no matter what you do on the circuit, you are not going to win the championship” (Elberse and Vicente, 2022, p.11).

However, this 2014 momentum was not the only decisive factor for Mercedes' sporting superpower. Fourthly, it was also largely the result of Wolff's arrival in 2013 as a team principal and his managerial decisions to invest in the team’s capabilities and organizational structure (Elberse and Vicente, 2022). Right from his beginning, he more than embraced his leadership role in order to put all missing pieces together to win championships (Elberse and Vicente, 2022):

He introduced a new team approach by placing the people at the centre of the organization (Edmonson, 2019; Elberse and Vicente, 2022). “I don’t run racing cars, I run people that run racing cars” (Elberse and Vicente, 2022, p. 6). Accompanying this, the well-being of the Mercedes employees has always been the first priority (Elberse and Vicente, 2022; Spurgeon, 2016). Knowing that F1 is mainly a sport of engineers, he tried to hire and lead them in the best possible way (Elberse and Vicente, 2022). Moreover, he tries to give his drivers the freedom to put in the best performance on the race weekend. In the example of Lewis Hamilton – known for his interests outside motor sport – he grants him a much freer environment for personal self-fulfilment, because Wolff knows that only in this way Lewis can perform at his best (Elberse and Vicente, 2022). Another part of the “people-at-the-centre” approach is that the management is encouraged to protect at all costs its own employees despite poor performance or mistakes. In case of unjustified internal and external criticism, Wolff “would not let anybody harm the tribe” (Cooper, 2021a, para.5).

However, Wolff is also deeply concerned with building the right organizational culture to enable the best on and off-track performance by the team (Elberse and Vicente, 2022). With the implemented leadership team, he not only developed a vision statement with values, ambitions, and team principles (compare table 3), but also is keen on implementing those on a daily basis to drive the cultural change (Elberse and Vicente, 2022). In order to feel this culture in everyday life, statements of intent are developed every racing season, to live up to the vision “to become unbeatable in every challenge we undertake” (Elberse and Vicente, 2022, p.24).

Another component of the new Mercedes culture is that every employee has the same status in the team. This attitude was made crystal clear to the drivers Hamilton and Rosberg in Barcelona 2016, when the two collided in their rivalry for the drivers' championship and were unable to finish the race (Weaver, 2016). Wolff made it unmistakably evident that the team is

above everyone, and that the drivers' egoisms not only put themselves in a bad light, but also all the other employees: “The next time when you want to drive each other off the road, you think about all the faces [of the staff], and then you'll think twice.” (Elberse and Vicente, 2022, p11).

Furthermore, Wolff has instilled an incomparable winning mentality in the team (Humphrey, 2021). Since his first day, he drives the team to always want more and establishes that complacency should never be part of the Mercedes DNA (Elberse and Vicente, 2022). With the infused mindset that the winning can always end, the Mercedes team analyses wins and losses in the same way to understand every detail of the weekend and ultimately be prepared for the next race battles (Elberse and Vicente, 2022).

In a sport where milliseconds make the difference between success and failure, attention to detail matters. This element has also become part of the Mercedes DNA since Wolff's arrival and has spread to all areas of the organization. Wolff once said “[i]t all starts with the attention to detail” and is himself a role model of meticulous and hard work. (Elberse and Vicente, 2022, p.8).

Zero tolerance for internal politics as well as an open and honest communication within the team, is another key pillar of the Mercedes culture. Living by the mantra “see it, say it, fix it”, the management encourages every employee to take responsibility and contribute to the team success. Simultaneously, Wolff encourages a no-blame mentality (Elberse and Vicente, 2022). This implies that mistakes are welcome along the road towards excellence and that one should learn from them instead of not risking anything to avoid them (Elberse and Vicente, 2022). According to Wolff, employees should feel safe to work in the best environment possible to show their talents and skills (Elberse and Vicente, 2022).

Overall, the correlation between the sporting result and Toto Wolff can be best summarised by the statement of Stefano Domenicali (FOM's CEO):

“You have to understand the environment you are in and [...] take the right actions to maximize the advantage for your team, from a business and people perspective, and at that I think Toto is the best” (Elberse and Vicente, 2022, p5).

Fifthly, a F1 team's sporting performance is strongly influenced by the season and race weekend approach. Here, the Mercedes team has mastered to develop automatised processes over the years to promote efficiency on and off-track and prevent contingencies (Elberse and Vicente, 2022).

Regarding the season-to-season planning, F1 teams face the challenge to develop new cars every racing season, as the FIA regulations are changed on a yearly basis (Elberse and Vicente, 2022). Here, Mercedes tries to find a good balance between the current season goals

and the competitiveness for next season (Elberse and Vicente, 2022). Within a single race season, the team follow a tested three-step approach to develop and create the fastest cars. First, design the best car based on the specifications tested in the wind tunnel and in computer simulations (Elberse and Vicente, 2022, p5). Second, further develop the car based on a deep learning curve from on-track performance (Elberse and Vicente, 2022). Lastly, engage in a fine-tuning process after the team has become more familiar with the car's specifications (approximately after race weekend 6-7) (Elberse and Vicente, 2022). By following this approach for years, the team has gained the know-how and operational experience to build and adapt the best performing car possible each season. This is a key driver of success, as Thomas concludes that "championships are won in the factories" (Elberse and Vicente, 2022, p10).

Regarding the race approach, Mercedes has mastered its processes over the years as well and divides each race into a preparation, race weekend, and debrief phase (Elberse and Vicente, 2022). In this way, the team is able to tackle each Grand-Prix in a familiar way to decrease uncertainties, pressure situations, and improve the analysis for the next races (Elberse and Vicente, 2022). In this context, the sober post-race weekend analysis is a key success factor: Regardless of the outcome of the respective race, the entire preparation and race weekend is critically evaluated in order to understand where the team can improve (Elberse and Vicente, 2022). "If you sat in one of our debriefs and no one told you what the results was, you wouldn't know if we had a good weekend or a bad one" concluded senior track engineer Rich Lane and illustrates again how detail-conscious and committed to improve the team is (Elberse and Vicente, 2022, p10).

Despite all the managerial and strategic decisions leading to this sporting dominance, the last reason is as simple as powerful: With his arrival in 2013, Wolff convinced the Daimler board to match the budget to their winning aspirations which has led to the fact that the team outspends its competition by being able to invest more than the double than many other teams (Smith, 2019).

#### **1.4.2 The impact on competitive balance**

All these highlighted factors have led to Mercedes largely dominating F1 since re-entering into F1. The Silver Arrows have won seven of the twelve possible drivers' championships and eight of the twelve possible constructors' championships (FOM, 2022d and 2022g). This results in a constructor championship victory ratio of 66% between 2010 and 2021 (compare table 4). Even more striking is the dominance since the 2014 season: Seven consecutive driver championships (2014-2020), eight consecutive constructor championships

(2014-2021) coupled with 111 race wins (winning ratio 69.4%), illustrate the unparalleled performance of the entire team and the drivers around Lewis Hamilton (FOM, 2022d, 2022g and 2022i). By winning six driver championships with Mercedes, Lewis Hamilton equalised the previous record holder Michael Schumacher in terms of driver titles (both seven championships) and strives with the team for his record-leading eighth driver championship (Zeppenfeld, 2022). The impact on the competitive balance is also evident from the high number of collected construction points: Insights from table 5 illustrate that from 2014 to 2020, Mercedes has always gained more than 30% of the available construction points (FOM, 2022d).

Nevertheless, one has to assess these successes in the overall F1 context for two reasons: First, F1 is considered as a league of a highly decreased competitive balance. The average Herfindahl Index for Competitive Balance (HICB) from 1995-2021 is significant higher (226,58) than in other major sport leagues (e.g., Premier League: 109,57 or NFL: 114,6) (FOM, 2022d; Ruta, 2022a). Second, other teams have also managed to dominate the racing series for several years, e.g., McLaren (1984-1991), Williams (1992-1997), Ferrari (1999-2008) and Red Bull (2010-2013) (Jenkins, 2020). Hence, one should compare the dominant era of the Silver Arrows with the once mentioned to evaluate the real value of sporting superiority:

As presented in table 6, Mercedes outperforms the other glorious teams in terms of races wins, laps led, pole positions and, podiums in their respective dominant eras. Especially in terms of race wins and podium finishes, Mercedes sets unmatched records and is also represented several times in almost all categories in terms of the best seasonal results (compare tables 7 – 12). In summary, the years 2014 to 2016 (see table 13) impressively reflect the true value of the Mercedes team's superiority, even compared to other dominating eras.

However, it remains to be seen whether the dominance will continue, because Red Bull has caught up (Max Verstappen won driver championship 2021) and with the start of the 2022 racing season the FIA introduced completely new car regulations as well as a financial cap (FOM, 2022j; Medland, 2022; Morlidge, 2022). Hence, Mercedes not only needs to adapt to these new regulations, but could also find itself in an unfavourable position due to the last season efforts: Because the fight for the 2021 demanded most of team's resources, Mercedes did not focus on the development of the 2022 car early on like other teams (e.g., Haas) (Elberse and Vicente, 2022).

### **1.4.3 The Mercedes junior programme**

With the introduction of the Junior Programme in 2016, the Mercedes team has revived its decades-long commitment to talent development in motorsport (Daimler AG, 2022b). This

far-reaching tradition began early on: In the 1950s, drivers such as Stirling Moss were supported to become world cup contenders, in the 1990s a promising driver generation including Michael Schumacher joined the Mercedes-Junior team and in the 2000s, Mercedes boosted in collaboration with McLaren the careers of Lewis Hamilton and Nico Rosberg (Mercedes F1, 2022j and 2022k).

The aim of the current junior programme is as simple as ambitious: “The Mercedes young drivers of today, will hopefully be our champions of tomorrow” (Mercedes F1, 2022j, para 5). For over 8 years now, Mercedes has strived to develop talented young drivers in that relaunched programme by providing them with continual and professional training in all relevant areas of racing (Mercedes F1, 2022j). In doing so, the team has managed to have former and current programme talents driving in almost every category of the single-seater motorsport, from karting to F1 (Daimler AG, 2022b; Mercedes F1, 2022j). With Pascal Wehrlein, Esteban Ocon, and George Russel, three Mercedes talents have already raced in the prestigious F1 (FIA, 2022e; FOM, 2022k; Mercedes F1, 2022j). Lastly, the programme year 2022 has been a unique milestone for two specific reasons: First, with George Russel who has been part of the talent programme since 2017, the first graduate joins the Mercedes team as a racing driver (Mercedes F1, 2022j and 2022l). Second, Luna Fluxa has become the first female driver of the talent academy (Mercedes F1, 2022j).

Despite the mentioned achievements, the programme is under constant supervision. The high costs related to the talent development (11 approx.. €80-100 million per year) have to pay off by giving junior drivers a chance to develop in F1 (FOM, 2018). Unlike the other powerful teams, Mercedes does not have a dedicated team to give its talents this opportunity (e.g., Alfa Romeo for Ferrari or AlphaTauri for Red Bull). Nevertheless, if there is no strategic vacancy in the Mercedes cockpit, the management tries to place its drivers with the teams to which Mercedes supplies engines. Russel, for example, was a driver for Williams and Esteban Ocon is currently a driver for Alpine, both teams with Mercedes engines (FOM, 2022k; Mercedes F1, 2022l).

Compared to Red Bull and Ferrari, the current Mercedes talent programme still lags a little behind in developing future driver stars (compare table 14). Red Bull’s Junior Team is considered the best talent academy in F1 (Holding, 2021). It not only has developed various F1 drivers like Sebastian Vettel or Max Verstappen, but more importantly many of those have gained a Red Bull driver seat and even have become world champions with Red Bull (Holding, 2021; Red Bull Racing, 2022). The Ferrari Driver Academy is also well-known for its dedicated work to promote future stars to the F1, for example Sergio Perez, Charles Leclerc, or Mick

Schumacher (Holding, 2021; Ferrari, 2022). However, only Charles Leclerc has so far managed to return to the Ferrari team as a race driver. One reason for the greater successes, apart from the earlier foundations (Red Bull Junior Team: 2001; Ferrari Driver Academy: 2009; Mercedes Junior Programme: 2016), is the mentioned close cooperation with other F1 teams to let talents gently develop at F1 level (Ferrari, 2022; Mercedes F1, 2022j; Red Bull Racing, 2022a).

Lastly, the talent programme can also be seen in a more holistic context. Although the main objective is of sporting nature to ensure future racing success, the programme also contribute to the educational outcomes of the Mercedes team. Its philosophy and management not only pass on Mercedes' legacy, but at the same time promote values of the sports like inclusion (e.g., women in motorsport), commitment, and dedication (e.g., training engagement) as well as fairness and respect on and off the race track. Hence, the programme teaches young people the core values of sport and society.

#### **1.4.4 F1 E-sports: Off-track sporting performance**

E-sports has become a key strategy for F1 to promote the race series off track: The official 2021 F1 Esports Series Pro Championship was viewed by over 23 million people with more than 468 million social media impressions and engagements (FOM, 2021c). The F1 teams compete with their e-sports divisions in 12 virtual races to crown the e-sports constructors' and drivers' world champion, with a total prize money of \$750.000 (FOM, 2022i).

Here, the Mercedes e-sports team has won both titles twice, in 2018 and 2021 (Simracing, 2018-2021) This puts Mercedes at the top in terms of drivers' world championships and second in the all-time ranking behind Red Bull in terms of overall points gained (compare table 15). The sporting achievements are the results of a dedicated e-sports commitment: On the Brackley campus, the e-sports division has its own training centre in order to provide the gamers with the best facilities and equipment (Mercedes F1, 2022m). But more importantly, the e-sports team is integrated into Mercedes's Driver-in-Loop Simulator department, where F1 drivers and gamers provide information to the engineers about the performance of the regular F1 car (Mercedes F1, 2022m). In this way, the e-sports team and F1 team mutually benefit from each other. The regular F1 team can optimise the car performance based on the gamers' feedback in the simulator sessions, and the e-sports team gains experience and car know-how relevant for their e-sports championship (Mercedes F1, 2022m).

Nevertheless, Mercedes' commitment to e-sports also has an influence on the social outcomes: By participating in the F1 Esports Series Pro Championship, the team generates young fans with an affinity for e-sports and engages them via the various social channels,

especially through Twitch. This also increases the team's international presence by attracting previously unreachable groups worldwide.

## **1.5 Financial outcomes**

The financial performance including the main revenue and cost streams as well as the salary structure will be examined in this subchapter in depth.

### **1.5.1 Mercedes' current financial situation**

As the annual reports state the team's success is measured by its F1 performance, but also by financial parameters "which include achieving a financially sustainable future for the team". (Mercedes F1, 2021b, p1).

Since the re-entering in 2010, the management has taken a big step towards this goal (compare figure 4). Revenues have grown steadily to €460 million (2019), and have not declined significantly (2020: €400 million) despite the covid pandemic impact (e.g., less races) (Mercedes F1, 2011-2017, 2018a, 2019b, 2020b and 2021b). This means that the team's revenues have more than doubled since 2010. Moreover, the team has managed to reduce costs relative to revenues, so that since 2017 the team's operations have been profitable (Mercedes F1, 2011-2017, 2018a 2019b, 2020b and 2021b).

The reasons for this positive financial development are diverse, but are mainly related to the sporting dominance since 2014 and its brand positioning. Because one of the major revenue drivers (F1 prize money) depends on the on-track racing performance, the team has received significantly more prize money over the years (Mercedes F1, 2011-2017, 2018a, 2019b, 2020b and 2021b). The second main reason for the improvement of the financial situation is the rise in advertising and sponsorship income (Mercedes F1, 2014-2017, 2018a, 2019b, 2020b and 2021b). Here, Mercedes benefits indirectly from its sporting success (better teams are more attractive to companies as sponsors), but also by the systematic positioning as a high-performance brand. Early on, the management has promoted the F1 Mercedes as a valuable partner by being much more than a simple brand ambassador for a specific company and was thus able to negotiate lucrative sponsorship contracts, e.g., IWC partnership in 2013 (IWC, 2022a). Another reason is the relative reduction of costs. Here, the team has adjusted the significant performance bonuses due to the sporting successes (especially in 2014, 2015) to the expected team performance and has minimised the additional costs related to regulation changes (Mercedes F1, 2014-2015). Furthermore, as table 16 shows, administrative expenses

have been streamlined, reducing its ratio compared to revenues from 6% (2014) to 3.6% (2020) (Mercedes F1, 2014-2017, 2018a, 2019b, 2020b and 2021b).

A look at the balance sheet shows that the Mercedes team is also making efforts in this respect to finance its racing activities sustainably. The Silver Arrows have been able to continuously increase the value of their assets: In particular, the fixed assets [value of the factories, equipment, and machinery as well as heritage assets (historic cars)] have almost quadrupled in value, as figure 5 illustrates.

With the achievement of profitability in 2017, the team has turned away from the heavy debt financing strategy and strives to build shareholder value (compare figure 6) (Mercedes F1, 2011-2017, 2018a, 2019b, 2020b and 2021b). As a result, the equity value has increased to €80 million, the highest value since 2012. Moreover, the team achieved to be below industry average in terms of debt-to-revenue ratio (compare figure 7). Nevertheless, the team still finances its racing operations mainly through debt. This high proportion of debt, even if justifiable in an industry comparison, carries the risk that the team can quickly find itself in financial difficulties if something unexpected occurs (e.g., war, pandemic, inflation).

Overall, the team's efforts to attain financial sustainability are also reflected in the brand value: The Mercedes team ranks behind Ferrari as the second most valuable team in F1 with a brand value of €860 million in 2018 (Smith, 2019). Moreover, the management claims to have significantly contributed to the increased brand value of its parent company Mercedes-Benz (Mercedes F1, 2019b, 2020b and 2021b).

## **1.5.2 Major revenue and costs streams**

### **1.5.2.1 Revenue streams**

As figure 8 shows, revenues can be divided into three major revenue blocks: Revenues from sponsorship and advertising (62%), revenues from prize money (32%) and revenues from the sale of merchandise (3%) (Elberse and Vicente, 2022).

In terms of income from *sponsorship and advertising*, the Mercedes team is in a diversified position with 24 partners and suppliers (Mercedes F1, 2022g). Thereby, the team operates a four-tier partner structure (compare table 17) (Mercedes F1, 2022g). Statistics from 2020 reveal, that the largest contribution is made by its parent company Mercedes-Benz (€75 million), followed the title and principal partners Petronas (€50 million) and Ineos (€30 million) (Venturoli, 2022). However, sponsors like AMD (€20 million), Monster Energy (€12 million), or UBS (€8 million) signed also sponsorship contracts with the Mercedes team mainly for two reasons (Venturoli, 2022). First, the team offers an incomparable advertising value with 19.2%

TV share and €5 billion television advertising value (Mercedes F1, 2021b). Second, the above-described brand positioning. The team aims to create added value for its partners beyond being just a sponsor vehicle. For example, the team is in close collaboration with the IWC Group in the field of performance engineering and mutually share their know-how to improve operational efficiency (IWC, 2022a). Through this brand positioning, the Mercedes team strives to become less dependent on the sporting performance. To further increase its sponsorship and advertising revenues, the team plans to enter new markets, e.g., China (Saward, 2021). In that regard, Mercedes has signed strategically the Chinese talent Yuanpu Cui as a junior driver and states regularly their Chinese ambitions publicly:

“I [would] like to not only race in Shanghai, I [would] also like to race in Beijing. [...] China is a fantastic market for us as Mercedes” (Mercedes F1, 2022o; Scott, 2022, para. 6).

Since 2013, the *F1 prize money* has been agreed individually between the FOM and each team through the Concorde Agreements (Liberty Media, 2021). The total prize fund for all teams is structured as follows: The FOM install team payments up to 68% of its adjusted EBIT (Liberty Media, 2021; Rencken and Nimmervoll, 2013). From this fund, teams receive an equal amount for participation in the championship, a performance related amount based on the last constructors' championship standings and additional payments (e.g., heritage, success or signing bonuses) (Liberty Media, 2021). For example, Ferrari receives nearly 2.5% of the fund as a long-standing team payment (LST) to honour their lengthy F1 commitment (Rencken and Collatine, 2019). Mercedes in turn, negotiated additional performance bonuses for race wins and consecutive championships, worth €68 million in 2019 (Rencken and Collatine, 2019). Although Mercedes was much more successful in the race seasons and earned \$177 million total prize money, the team still ranked second behind Ferrari (\$200 million), due to Ferrari's large LST payment (Rencken and Collatine, 2018 and 2019). In the future, Mercedes must prepare for lower prize money, with the new 2020 Concorde Agreement in place (FIA, 2020a; Parkes, 2020). The new agreements aim to “reduce the financial [...] disparities between the teams” (FIA, 2020a, para. 1) by reducing the inflated special payoffs and structuring the performance payment more narrowly (Freeman, 2020; Parkes, 2020). Estimates show that Mercedes' prize money could drop by approximately €58 million (Verlin, 2018). Hence, Mercedes' strategy needs to focus on the sporting performance to maximise the receivable prize money, but also on other revenue streams to compensate the shortfall in prize money.

With regards to the income from *merchandise*, the Silver Arrows sell next to its team apparel (teamwear, accessories, and special driver products), Mercedes F1 memorabilia like worn race suits or steering wheels (FOM, 2022m; Mercedes F1, 2022p). Both segments are

offered offline via on-track stores and online via the Mercedes F1 fan shop, the official F1 fan store, and other online shops (FOM, 2022n; Mercedes F1, 2022p). Hence, the team applies a dual strategy of D2C (direct to consumer) and B2C (through intermediate to consumer) and thereby reaches their global fans in a more convenient manner, as they can access websites in their languages and receive the products faster. Nevertheless, merchandise revenues only account for a small percentage (Elberse and Vicente, 2022).

### 1.5.2.2 Cost streams

As figure 9 shows, the main costs derive from operating expenses (48%), staff (29%) and drivers (17%) expenses, and fees for the engine production (4%) (Elberse and Vicente, 2022).

*Operational costs* can again be broken down into subcategories: Costs for developing, producing, and operating a F1 car, the logistic costs as well as fees for additional services (compare table 18) (Gibson, 2020; Sylt, 2020). Although no detailed information is released, it can be assumed that the biggest single cost elements are certainly the development and manufacturing of the cars and the logistics of competing in F1. Alone the costs for fabricating a single F1 car can easily rise up to €18 million, excluding the heavy research and development costs (Elson, 2021). To keep these costs as low as possible without losing performance, the team repeatedly revises its work approach to operate more efficiently (e.g., energy savings of 220.000kWH at the factory), while at the same time measuring and evaluating every single process and item to understand where the team can cut costs (Cooper, 2021b; Mercedes F1, 2021b). According to CTO James Allison, the team also lowers the number of needed parts and makes them more robust to increase its durability (Cooper, 2021b). In order to reduce the logistic costs, Karl Fanson (head of race team logistics) is in constant exchange with the team's logistics partners to transport the team and equipment from circuit to circuit as efficiently as possible (Mercedes F1, 2020c). As Wolff explains, the team tries in particular to reduce the number of transports, because "shipping parts on the Wednesday, Thursday, and even Friday morning just does [not] make sense" (ESPN, 2014, para. 1).

In 2020, the *staff and driver expenses* combined accounted for more than 50 percent of all costs. However, the management insist of maintaining the salary structure, because it is sustainable compared with the industry (see more in chapter 1.5.3) and because more importantly the team itself has proven to be a key factor of the sporting success. Asked about the salary cap and the difficult global circumstances (e.g., inflation and Ukrainian war) in the race season 2022, Toto Wolff stated:

“We don’t want to lift the ceiling just to have a cost cap ever increasing [...]. But I want my people to be well paid especially in such tough circumstances” (Cleeren, 2022, para. 6).

With regards to the *engine expenses*, the Mercedes team jointly develops and upgrades the F1 power units with HHP (Mercedes HHP, 2022). However, the team has to pay an annual fee (€15 million in 2020) to HHP for the supply of the engines, because as already mentioned above HHP is an independent sister entity (Elberse and Vicente, 2022).

Irrespective of these three major cost drivers, the introduced cost cap by the FIA and FOM is a challenge and an opportunity at the same time for the Mercedes team (Barretto, 2020). It will help to further decrease its cost structure and therefore strengthen the financial position (FIA, 2022f). However, the team is forced to reduce its higher budget, which could have a negative impact on the sporting success and the related revenues. Since 2021, teams have been subject to a limited budget (2021: \$145 million, 2022: \$140 million; 2023 onwards: \$135 million) in order to increase the competitiveness between teams and their long-term financial sustainability (Barretto, 2020; FIA, 2022f). The cap includes all expenses related to car performance (many of the described operating, staff, and engine costs) and excludes marketing costs, drivers’ salaries, and staff costs of the three highest paid employees (Barretto, 2020). Through the described cost reducing measures and the preliminary work in reducing operating expenses already ahead of the 2021 season (from €177 million in 2019 to €131 million in 2020), the cost cap was met in 2021 without diminishing the sporting success. Still, it remains a balancing act between the sporting success and cost efficiency by complying with the financial regulations in order to become financially independent in the long-term (Crebolder, 2021).

### **1.5.3 Drivers’ and staffs’ salaries**

Comparing table 19, the salaries of the last four years for both the employees and the drivers have increased constantly from €143.4 to €199.3 million (Mercedes F1, 2017, 2018a, 2019b, 2020b and 2021b). Although the number of employees has also increased (+16% from 912 to 1063), the salary growth (+39%) has been significantly higher. This is especially attributed to the rise in drivers' salaries. In 2018, both drivers at that time extended their contract and negotiated better terms based on their powerful sporting dominance (Badenhausen, 2018; Mercedes F1, 2018b).

Nevertheless, the total salary to revenue ratio (2017- 2020) has remained stable within a 5% range, accounting for the revenue decline in 2020 as a result of the Covid-19 pandemic. This shows that Mercedes is in control of its salary structure and does not force sporting success

through excessive wages. This sustainable salary approach is confirmed by the comparison of the drivers' salaries for the race season 2021 (compare table 20): Although the Silver Arrows pay their drivers the highest combined salary (\$72m/year), the Mercedes team (\$0.12m) is almost on par with its season's main competitor Red Bull (\$0.1m) in terms of cost per point (FOM, 2022d; Knight, 2021). Therefore, both drivers' salaries reflect the sporting performance and past achievements, while also acknowledging the brand value of their star driver Lewis Hamilton. Since Lewis Hamilton is a testimonial of many team sponsors (e.g., Monster Energy, Police, Tommy Hilfiger, Puma, or IWC), it can be assumed that the person Lewis Hamilton is a decisive reason for entering the partnership (Forbes, 2020; IWC, 2019). However, the management around Wolff advocates for a salary cap also for drivers in the long-term to further reduce Mercedes cost structure (Wilde, 2022).

## **1.6 Educational outcomes**

In this subchapter, the Mercedes team's educational performance including its three-pillar sustainability strategy as well as the on and off-track behaviour of drivers and managers – by using the example of Lewis Hamilton - will be described.

### **1.6.1 The Mercedes F1 team as a forerunner for change**

CEO Toto Wolff summarises the educational role of the Mercedes team as follows: “We want to be at the forefront of change and use our global motorsport platform to be a case study for a more sustainable and diverse future” (Mercedes F1, 2019c, p.6). With its parent company, the Silver Arrows aim to provide long-term value for all stakeholder groups by working on a three-pillar strategy: Charity work (Our Positive Footprint), diversity engagement (Driving Change), and sustainability commitment (Countdown to Zero), (Mercedes F1, 2021a).

The first pillar “**Our Positive Footprint**” aims to establish a beneficial impact and legacy in motorsport industry and the local communities (Mercedes F1, 2022q). Through a combination of employee fundraising and corporate donations, the team contributes to its charitable ambitions and emphasises its dedication to corporate social responsibility (Mercedes F1, 2022q). Here, the Mercedes F1 team focuses on a wide range of charitable initiatives (compare table 21) in order to spread its organizational legacy and values across local communities and the global world (Mercedes F1, 2022q). This charitable commitment has also positive strategic side-effects: For example, an improved reputation can inspire more intelligent people to work in motorsport and for Mercedes. In addition, as an exemplary organization, Mercedes can negotiate new and better sponsorship deals.

The second pillar “**Driving Change**” intends to increase all forms of diversity in the Mercedes workforce (Mercedes F1, 2022q). From a historic point of view, motorsport always lacked in diversity in terms of people from ethnic groups, women, and lower socio-economic backgrounds (Galloway, 2021). This is also true for the Mercedes team: Only 12% of the workforce are female and only 3% are part of ethnic groups (Mercedes F1, 2022q). To overcome this lack of diversity, Mercedes is strongly committed to broaden the diversity in its own team and in the industry by introducing several measures: In addition to the Gender Pay Gap Report required by British law, Mercedes has been committed to publish an annual CSR report as of 2021 in order to measure its own activities and disclose deficits (Mercedes F1, 2021a). Moreover, the Silver Arrows launched the “Accelerate 25” programme (Mercedes F1, 2020d). It formulates the ambitious five-year target that each year at least 25 percent of all new team members come from underrepresented groups (Mercedes F1, 2020d). To achieve this objective, the team has initiated internal and external activities to access and develop the previous unrecognised talent pool by supporting various initiatives related to the issues (compare table 22) (Mercedes F1, 2021a). In addition to those activities, the team is also committed to diversity on the track. In the 2020 season, the team painted its otherwise silver cars black to support the Black Life Matters movement and printed “End racism” on the Halo system to demonstrate their organizational values and social commitments (FOM, 2020b). Another example was the rainbow Mercedes star on the racing cars during pride month 2022 (Mercedes F1, 2022r).

Overall, Mercedes contributes with this pillar to a better society, but also gains in terms of team performance. As Toto Wolff concludes:

“Greater diversity will make us more innovative and bring greater performance. We know that a more diverse team is a stronger team” (Mercedes F1, 2022q, para. 2).

The social commitment led also to the fact that Lewis Hamilton extended his contract in 2021, as the team has always supported him in driving diversity and equality in sport and society (Hamilton, 2021a).

Although, it is difficult to compare teams in terms of the range and depth of their educational activities, the enormous CSR-related presence on the Mercedes F1 team website and the existence of a CSR report show that Mercedes is also a leader in this area (compare table 23). The only team that publishes an annual CSR report at F1 team level is McLaren. (McLaren, 2022a; Mercedes F1, 2022q).

### **1.6.2 Corporate social responsibility: Countdown to zero**

The mentioned third pillar in Mercedes's CSR strategy is the **"Countdown to Zero"** (Mercedes F1, 2022q). This goal has been implemented since 2020, when the parent company Mercedes-Benz announced a sustainable business approach for its motorsport divisions (Mercedes F1, 2022q). Mercedes's successfully achieved its ambition to become carbon neutral in 2020 and currently aims to accomplish two main objectives: First, to reduce its CO2 emissions by 50 percent until 2022 and second to strive for a more sustainable power unit including 100 percent sustainable fuel from 2025 onwards (Mercedes F1, 2021a).

In order to achieve the first goal, the Mercedes team uses a hybrid strategy of emissions reduction and offsetting to reach its ambitious environmental targets (Mercedes F1, 2021a). Avoidable emissions will be reduced through the shift towards renewable energy sources in all areas (Mercedes F1, 2022q). For example, both factory sites (Brixworth and Brackley) are ISO 14001 certified (international environmental management system certification) and at Brackley, only energy from renewable sources has been used since year-end 2019 (Mercedes F1, 2021a and 2022q). During race weekends, the Mercedes team imposes rules on itself to avoid single-used plastic and sleep in low-impact accommodation (Mercedes F1, 2022q). Contrary, unavoidable emissions will be offset through a gold-standard compensation procedure (Mercedes F1, 2022q).

Compared to other F1 teams (see table 24), Mercedes is at the forefront of environmental commitment: The Silver Arrows are one of seven teams that communicate an environmental strategy on their F1 team homepage, and one of five teams that present a detailed level of ecological vision and action plan. (Mercedes F1, 2022q). Moreover, it is the only team next to Williams and McLaren that publishes a yearly report about their environmental engagements (McLaren, 2021; Mercedes F1, 2022q; Williams, 2021). Lastly, the Mercedes team received also the three-star FIA environmental accreditation, a recognition of any stakeholder in motorsports for their environmental performance (FIA, 2020b; 2022g).

Because more sustainable racing is inevitable, also due to the ambitious sustainability strategy of the FOM, the environmental commitment is not simply greenwashing but a strategy to ensure future sporting success (FOM, 2022o). The team focuses early on the upcoming technologies and possible regulation changes in order to position Mercedes also in the future at the top. For example, the Mercedes team has already received the mentioned FIA environmental accreditation which will be mandatory for the 2023 season, and therefore can concentrate on other milestones to be competitive in the future (FIA, 2020b and 2022b).

### **1.6.3 The educational mission of Lewis Hamilton**

In line with Mercedes' commitment to social improvements, Lewis Hamilton has become one of F1 leaders in driving social change. He has repeatedly encouraged the F1 and other teams to promote diversity and has laid the basis for F1's social and environmental "We Race As One" campaign by being one of the most vocal drivers exposing social injustice (Collatine, 2022; Dowdeswell, 2021; Hamilton, 2020a). In this respect, Hamilton often makes his mark for a better society on and off the track (compare table 25). This shows that he is well aware of his duty as a role model, partly because his life has been influenced by social inequalities: Hamilton's path to become F1's only coloured driver until today was shaped heavily by the disparity between his and other drivers' financial resources in the fight for a F1 career (Baldwin, 2020; Collatine, 2019). In addition, his brother Nicolas has lived with the disability Cerebral Palsy since birth (Hamilton, 2022a).

By revealing that "growing up, [he] experienced first-hand many of the barriers facing young people from underserved backgrounds" (Mission44, 2022, para. 7), Hamilton set up his own charitable foundation Mission44 with a financial commitment of 20 million pounds by himself (Hart, 2021; Mission44, 2022). It follows the vision of building an inclusive and fair society (Mission44, 2022). In addition, Hamilton is committed to increase diversity in UK motorsport and founded in 2019 "The Hamilton Commission" (Hamilton, 2022b). In collaboration with the Royal Academy of Engineering, the commission published a ten-recommendation report to increase the representation of coloured people in UK motorsports (Hamilton, 2022b). Together with the Mercedes team he also launched the charitable partnership Ignite (Mercedes F1, 2021c). It aims to facilitate the career entry for (British) talents from underrepresented and disadvantaged backgrounds into the motorsport industry (Mercedes F1, 2021c).

In general, the described activities of Lewis Hamilton can not only be understood as an educational outcome, but also contribute to the social ones of the Mercedes team. The organizations and activities enable different interest groups to participate in motorsport and to have an influence on the future of the sport and the team, e.g., by becoming employees through the systematic support of those projects.

## **1.7 Social and community outcomes**

In this subchapter, the analysis will focus on the stakeholder relationship, the team's international presence, and the interaction with their global fans.

### **1.7.1 Stakeholder management: Mercedes' shareholders and community**

The overview in figure 10 illustrates that the Mercedes F1 Team has a wide spectrum of internal and external stakeholders. The stakeholders influence the team in different ways: For example, the sporting results are largely influenced by the team's own work (e.g., drivers, mechanics, engineers and management) as well as the suppliers (e.g., quality of materials), other teams (e.g., competitive performance), and the FIA (e.g., responsibility for sporting regulations). While the partners/sponsors (e.g., commercial contracts) and the FOM (e.g., distribution of prize money) mainly contribute to economic goals. Yet others, like the media (e.g., communication platform to the outside world) and fans (e.g., support and event participation) contribute to socio-educational outcomes.

In the following, a few examples showcase how the Mercedes F1 team interacts with and involves certain types of stakeholders in order to achieve their vision of becoming invincible at every endeavour of the team (Elberse and Vicente, 2022):

With regards to sporting outcomes, the Mercedes management demands from every internal stakeholder a high level of cultural integrity and performance orientation, but also gives employees enough freedom to achieve their maximum potential (Elberse and Vicente, 2022). This balancing act is a key factor of the Mercedes culture as Toto Wolff argues that “most important is to acknowledge that we are all different individuals and we need different frameworks in order to perform well” (Humphrey, 2021, para 4).

Moreover, the team tries to maintain a close communication with the FIA, FOM, and other teams (e.g., team principal meetings or F1 Commission meetings) to discuss issues about sporting regulations, safety issues, and the promotion of racing series to ensure the viability of the sport (FIA, 2022h; Hoye et al. 2018).

With regards to financial outcomes, the Mercedes team is in open dialogue with FOM CEO Stefano Domenicali to increase the overall F1 revenues and attractiveness (e.g., discussions about more races, new tracks, additional teams) and to review the financial regulations considering the team's circumstances (e.g., cost cap and inflation issue in 2022) (Cooper, 2022b; Jindal, 2021). To promote popularity among sponsors, the team maintains close relationship with them and values them as an extended arm: Mutual respect is highly emphasised so that the team commits to fulfill the sponsors' rights (e.g., logo placement or

hospitality access) and the own obligations (e.g., participation at sponsor events or exclusive interviews) in the best possible manner (UBS, 2018).

With regards to socio-educational outcomes, promoting the values of the sport is of high importance for the Mercedes team. Therefore, it closely collaborates with many partners (e.g., charities or non-profit organizations) and invests a great proportion of time and effort in the projects (Mercedes F1, 2022q). In addition, the team works hand-in-hand with the FIA to become net zero carbon in 2030 by developing a more sustainable engine and demanding a more environmentally friendly race calendar (FOM, 2022o; Mercedes F1, 2021a).

### **1.7.2 International presence**

Due to the fact that F1 is a global sport per se and the racing circus takes place on all continents, the Mercedes F1 team is globally active by nature (FOM, 2021d). Through the global race calendar, the Mercedes Team annually presents itself directly to people, companies, and other stakeholders in 22 international Grand-Prixes (2021 season) and indirectly via broadcasting in more than 200 territories (FOM, 2021a). This results in a very international team profile:

In terms of geographical heritage, one can speak of a dual nationality: On the one hand, the team belongs to the German parent company Mercedes-Benz, on the other hand, the headquarters and factories are located in the United Kingdom (Mercedes F1, 2020a and 2022d). In addition, the Mercedes F1 Team employs people from more than 30 nationalities and is owned by shareholders from three different nations (Mercedes F1, 2022f and 2022q).

In terms of international presence through partnerships and sponsors, Mercedes is represented in a variety of industries and regions (Mercedes F1, 2022n) As shown in table 17, the Mercedes team has more than 20 partnerships of which almost all operate globally and thus indirectly provide the Mercedes F1 team with worldwide attention (Mercedes F1, 2022n). If needed, the Mercedes F1 brand promotion can be further expanded through the global network and market approach of the parent company Mercedes-Benz (Daimler AG, 2022c).

In terms of social media presence, the Mercedes team is by far the dominant F1 team: Comparing the follower numbers in table 26, the team outperforms all other teams with over 25 million followers on the most important platforms (Mercedes, 2022s). Thereby, Mercedes' strategy is to leverage its high recognition among F1 fans to grow its brand also among general race enthusiast and other sport consumers. Nevertheless, the team website can only be accessed in two languages (German and English), which reduces the usability for F1 related promising markets such as Latin America and Asia, especially China (Mercedes F1, 2022a).

### 1.7.3 Mercedes' global fan strategy

That Mercedes enjoys a high popularity among fans is undisputed: The Mercedes team ranks as the fourth most popular F1 team according to the official F1 fan survey 2021 (FOM, 2021d). Although the popularity has decreased compared to 2017 (second place), the overall impression of high popularity among fans is not diminished, as the reasons for the decline are more than understandable: First, it is difficult for Mercedes to match the popular driver line ups of McLaren and Red Bull (most favourite drivers) (FOM, 2021d) Second, the team has seen itself in a complex situation as Toto Wolff summarised:

“I think it’s the normal evolution that we have expected: We have been very fortunate to win seven times in a row. [...] It's clear that, in nature, you cheer more for teams that had more difficult times and [are] a little bit of an underdog.” (FOM, 2021d; Maher, 2021, para. 1).

Nonetheless, Mercedes wants to return to the top and continue to build on its overall popularity (Maher, 2021). Therefore, the team relies on its global fan strategy: The whole strategy runs nowadays under the slogan “Together with you, we are #DrivenByEachOther.” (Mercedes F1, 2022s, para. 4). As a key pillar Mercedes sees the fan as part of the team and aims to interact as much as possible with them (Mercedes F1, 2022t). In this context, Mercedes engages with their fans not only on but also off race weekends, both in physical and online settings.

During the race weekends, fans have the opportunity to experience the team and drivers up close. Either through scheduled Meet & Greets or through the Paddock Pass, where fans can accompany the team throughout the entire race weekend in the hospitality and garage (FOM, 2022p; Mercedes F1, 2022u). In addition, Mercedes updates its fans via social media with the most important information about the race weekend and provides them with diverse behind-the-scenes insights throughout each Grand-Prix (Ripke, 2022). Since 2019, the team participates also in the popular Netflix series “Formula 1: Drive-To-Survive” to attract a new audience and show the team from a different angle (Smith, 2021).

Off the races, fans have the possibility to join a VIP factory tour at Brackley to experience first-hand the team’s facilities and chat with experts (Daimler AG, 2022d). In addition, Mercedes has a designated news and entertainment section on their team website (Mercedes F1, 2022a) Here, fans can learn almost everything about the team by viewing content from two broad areas: The one, more informative (e.g., news about past race weekends and team events); The other, more entertaining and purpose driven by focusing on insights into the team's activities and exciting F1 knowledge, e.g., through Q&A sessions with the drivers, team challenges or explanatory videos with engineers (Mercedes F1, 2022a and 2022v). Moreover,

the Mercedes team uses frequently the official F1 podcast “F1BeyondTheGrip” as a channel to communicate with its fans (FOM, 2022q). In addition, Mercedes hired Paul Ripke who accompanied the team from 2016 to 2019 as official team photographer in order to show a visual story of the work and people around the team (Mercedes F1, 2019d). Today, Mercedes employs him as special advisor to support the team's channel and communication strategy (Mercedes F1, 2019d). Furthermore, the teams launched a series of NFT drops which can be collected and traded by fans with the goal to facilitate an even closer community and team relationship (Mercedes F1, 2022w).

Lastly, the fan strategy is not only to inform about and involve fans in team activities, but also to take their opinions into account. Therefore, Mercedes is the only F1 team that has launched a sub-community on the official F1 Fan Voice platform (Mercedes F1, 2021d). Here, Mercedes fans can participate in forums, polls, and surveys to help shape the team they love, while at the same time win exclusive prizes for their contribution (FOM, 2022r). In this way, the Mercedes team shows how important the fans’ opinion is to the team and that they are constantly looking to become better in their fan engagement and communication.

Nevertheless, Mercedes can still learn from other teams in order to better serve their fans’ desires. This could include a membership offering (e.g., Haas), an own F1 app (e.g., McLaren), a loyalty program, or an own podcast (e.g., both Red Bull) (Haas, 2022; McLaren, 2022b; Red Bull Racing, 2022b and 2022c).

## **Chapter 2: Literature review**

### **2.1 Team identification**

As described above, fans are a key stakeholder of the Mercedes F1 team. The team values the fans as part of the team and communicate this message repeatedly, for example through Lewis Hamilton after a Grand-Prix:

“I can't express how grateful I am for those I saw this weekend and for those watching at home somewhere in the world. [...] I won't give up, we win and we lose together” (Bashforth, 2022, para. 1).

Therefore, it is also interesting from a scientific point of view to examine the importance attributed to fans and to illustrate why people identify with a particular team and remain fans for life.

#### **2.1.1 The importance of fans in sports**

Fans have a high standing not only in Formula 1. They have been seen as one of the most critical stakeholder groups, regardless of the sport (Biscaia et al., 2018; García and

Welford, 2015). Fans mainly earn imperative standing for their undeniable contribution to the success of the sports by devoting money, time, and energy to their sports and favourite teams (Dalakas & Melancon, 2012). Fans are primarily responsible for creating a unique sport event atmosphere by supporting their favourite teams (Biscaia, 2015; Hedlund, 2014). Moreover, fans also drive the commercialisation of sport, which is particular true in the F1 context: They purchase tickets and merchandise, follow their teams on TV, engage in social media activities, and attract sponsors' attention (Anagnostopoulos, 2011). Lastly, fans have also an impact on the organizational decision-making process, for example by demanding sporting success and putting pressure on managers to hire or fire certain coaches and athletes (Anagnostopoulos, 2011; Senaux, 2008).

### **2.1.2 Definition of team identification**

In order to define team identification, one needs to first understand its scientific origin and the used identity theories to avoid confusion about the term and its suitability for research.

Social scientists have been interested in the concept of individual identification with a group for a long time but it was only put into the sport context by sports psychologists and marketers in the early 1990s (Wann 2006; Lock and Heere, 2017; Funk and James, 2001). Much of the previous research uses the social identity theory by Tajfel and Turner (1979), while a smaller group of scholars applies Stryker's identity theory (1968) to describe fans' relationship to a sport or team. Since they differ in the level of analysis, two distinct concepts of identity have evolved from the respective theories and should not be used interchangeably (Biscaia et al, 2018; Lock and Heere, 2017):

Identity theory deals with the different social and situational roles of a person and its influence on their identity formation (Burke and Stets, 1999; Stryker 1968). From this research field, the concept of *fan identity* has emerged and reflects the importance of the role as a fan to the individual self-concept. Hereby, being a fan is one of several roles in a person's salience hierarchy (Lock and Heere, 2017).

The concept *team identity* is derived from the social identity theory which claims that a persons' self-concept is shaped by the social group to which they belong (Jang, Wann and Ko, 2018; Tajfel and Turner 1979). Hence, team identity in the sport context focuses on the sense of belonging to a sport team and the influence of the team's characteristics on the self-concept by identifying oneself with other fans of the same sport team and distancing oneself from other sport teams' supporters (Delia and James, 2018; Lock and Heere, 2017; Heere and James, 2007).

This clear delineation of fan to team identity allows for a more detailed definition of the term team identification: On the basis of Tajfel's social identity definition - "an individual's self-concept which derives from his knowledge of his membership of a social group [team] together with the value and emotional significance attached to that membership" (Tajfel and Turner, 1979, p. 63) -, sport researchers have defined team identification ever since using a variety of terms and expressions (compare figure 11). Nevertheless, Lock and Heere (2017) identified four elements of team identification that are consistent across the existing literature: "(a) cognition [of team membership], (b) interaction with a consumer's self-concept, (c) interest in, and evaluations of group status, and (d) some degree of emotional value [towards the team]" (Lock and Heere, 2017 p. 415).

Moreover, team identification seems to be a relatively stable trait with varying degrees of identification (Katz and Heere, 2016; Lock et al., 2014; Wann and Schrader, 1996; James and Funk, 2001). Ranging from less identified fans with low level of engagement and low financial, emotional, and time commitment, to highly identified fans that dedicate a significant time and effort to their favourite team (Pooley, 1978; Sutton et al., 1997). In addition, the type and degree of identification varies by sport (Gantz and Wenner, 1995). Here, motorsport is considered as a classic example of a sport with little team identification (Chung and Hwang, 2015).

## **2.2 Drivers of team identification**

Science and sports have long addressed the question of why people identify with a sport, team or athlete and have discovered many different motivations and drivers for supporting a team. The study by Wann, Tucker and Schrader (1996) provide a powerful illustration of how diverse motivations for identification with a sport team can be: The researchers found more than 40 reasons to identify with a team, of which 90% were enumerated by fewer than 10% of the participating fans. Nevertheless, one overarching cause can be identified across all situations: Domain involvement which is in sport literature also referred to sport attachment (Gwinner and Swanson, 2003). It is the personal interest into a specific object (e.g., particular sport category) that has an influence on the identification with a group (e.g., sports team) (Fisher and Wakefield, 1998; Yoshida, Heere and Gordon, 2015; Mahony et al., 2002; Lock and Filo, 2012). In the F1 context, Ballouli and Trail (2016) have shown that the attachment to racing positively influences the attachment to Formula 1.

In the following, the literature review focuses on team-related causes of team identification (2.2.1) in order to create a valuable link to the Mercedes case. Nevertheless, other

team identification drivers will be described as well (2.2.2). In this way, the widely-quoted work by Wann (2006) is taken into account and will be extended by F1 relevant motives and characteristics.

### **2.2.1 Team-related causes of team identification**

The level of identification with a sports team depends heavily on team-related aspects, mainly the team performance, team characteristics, and players' attributes (Wann, 2006). These drivers are of great strategic importance because compared to other causes of team identification, a sport organization can considerably influence these drivers better by making managerial decisions.

With regards to *team performance*, a team's success has been proven to be one of the most influential drivers of team identification (Wann, Tucker and Schrader, 1996). Depending on the sporting success or failure, it can strengthen or reduce the identification with a team (Sutton et al., 1997). As fans hope that the positive association will reflect on them, fans try to "bask in the reflected glory (BIRG) [by associating stronger with the successful team or] try to cut off reflected failure (CORF) [by] disassociate themselves from unsuccessful [teams]" (Cialdini et al., 1976; Trail et al., 2012, p. 345). In particular, historical successes are an important reason to associate with a team: Sport organizations with a glorious history (e.g., New York Yankees or Scuderia Ferrari) attract more fans since fans value their past sporting success (Delia and James, 2018; Lock, Taylor and Darcy, 2011). F1 specific, Ballouli and Trail (2016) proved that the team's sporting success directly affects the attachment to the driver which in turn influences the team identification and concluded that the team's and drivers' performance will motivate fans to support a particular F1 team.

With regards to **team characteristics**, Blank, Koenigstorfer and Baumgartner (2018) as well as Sutton et al. (1997) suggest that team identification is not all about winning on-field, but that other off-field drivers also matter:

- 1) *Team image and values* – Because fans believe that the image of a sport organization can reflect their own self-image, the general team image is an important driver of team identification (Dutton, Dukerich and Harquail, 1994; Lee and Ferreira, 2013; Wang and Tang, 20018). Complementary to the general team image, the team's perceived prestige and distinctiveness as well as the promoted values by the team positively influence team identification (Lock and Filo, 2012; Wang and Tang, 2018). Therefore, it is advisable for sport organization to maintain a clean and desirable image (Jung, 2012; Wann, 2006).

- 2) *History, tradition, and rituals* – These organizational elements provide fans with a “sense of tangibility in a largely intangible environment” (Underwood et al., 2001, p. 6) by allowing fans to experience historical elements of the team (e.g., historical uniforms or cars) which ultimately enable them to feel a sense of belonging to the team history (Boyle and Magnusson, 2007). Further, Lock and Filo (2012) claim that a lack of current and historical team-related information is one of the three reasons that can explain non-identification. In contrast, fan rituals (e.g., tailgating before an American football game) are for many fans part of the sporting experience and have a positive influence on team identification (James, Breezeel and Ross, 2001; Wang and Tang, 2018).
- 3) *Ownership, Sponsors, and Partners* – While the team owner’s image and managerial decision-making process are crucial organizational reasons affecting team identification, the reputation and behaviour of the team’s sponsors and partners also influence the identification process (Meenaghan, 2001; Pope and Voges, 2000; Sutton et al., 1997). However, the study of Chang and Kwak (2021) suggests to carefully use sponsors to target fans, as their results show that the communication with fans via sponsor-controlled platforms can also amplify undesirable fan reactions, such as negative attitudes towards the team or low positive word-of-mouth communication.
- 4) *CSR-related activities* – Sport organizations that promote CSR-related activities can positively affect the attachment towards a team, because fans are motivated to identify and develop relations with prestigious organizations in order to boost their self-image (Pratt, 1988). However, sport organizations need to be aware that fans do not purely positively value the greater spending of efforts and resources on CSR initiatives, as some fans might fear that those investments imply a decreased spending into other relevant team identification aspects, e.g., sporting performance like the salary for drivers or research and development expenditure for cars (Chang and Kwak, 2021).
- 5) *Car appearance and sound* – As every other sport as well, Formula 1 fans has unique motives to follow the race series and/or a particular team. Ballouli and Trail (2016) were first to investigate whether the type and sound of engine, as well as the look and technology of the car, have an impact to follow and attend F1 events in the future. They discovered that most of the elements (type of engine, look of car, sound of engine) are not significantly related to the fan’s F1 enthusiasm, with the exception of the car’s technology.

With regards to **players' attributes**, research has shown that particular characteristics of players or drivers can strengthen the team identification process. In this context, player attractiveness and player similarity to the fan were given a great scientific attention (Fisher and Wakefield, 1998; Ashforth and Mael, 1989). Fisher (1998) not only proved that similarity to the fan is a more meaningful predictor of team identification, but also that particular attributes (e.g., personality, demographics, geographics) are valued as more important for the team identification process.

In general, studies have shown that fans also identify with a team because of the attachment to a specific athlete of a team and that for example the transfer of the driver to another team is a key reason to terminate the identification with the team (Ballouli and Trail, 2016; Mahony et al., 2002; Wann, Tucker and Schrader, 1996). This is especially true in the context of F1, as motor sport enthusiasts have an affinity to follow only their favourite racer rather than an entire team (Chung and Hwang, 2015; FOM, 2021d).

Therefore, the off-track behaviour of drivers and other team members is even more crucial in the F1 environment, also because studies by Fink et. al (2009) have examined that the off-field presentation impacts team identification, particularly among highly identified fans. In this context, the parasocial interaction – referred to the one-sided relationship between consumers of mass and social media and the person appearing in those media - is of crucial importance for F1 teams (Auter and Palmgreen, 2000; Chung and Hwang, 2015): The omnipresence of media has made it considerable easy for fans to follow their favourite drivers during the season and even off-season, while at the same time this parasocial interaction between fans and drivers has been proven to increase fanship in the F1 and NASCAR context (Chung and Hwang, 2015; Spinda et al., 2009).

### **2.2.2 Other causes of team identification**

In addition to the team-related causes described above, Wann (2006) distinguishes between psychological and environmental causes.

With regards to **psychological causes of team identification**, one can identify four prominent motives people are using to satisfy their individual needs:

- 1) *Vicarious achievement* – Fans identify themselves with a team in order to satisfy their need for achievement through the success of the particular team (Trail, Anderson and Fink, 2005; Trail et al., 2012). According to Fink, Trail and Anderson (2002), out of their eight tested motives, vicarious achievement accounted for the largest proportion of variance in team identification.

- 2) *Need for community belonging* – The team is used as an instrument to fulfill one’s demand to experience a sense of belonging and affiliation to a group (Collins et al., 2016; Gwinner and Swanson, 2003). Hence, people will identify with an F1 team, in order to establish and maintain group relations and avoid feelings of alienation (Wann, 1995).
- 3) *Feeling of being part of a distinctive group* – People are frequently tempted to see their ingroup as distinct (Ashforth & Mael, 1989). This community pride is often a key motivation to identify with a particular team, as shown with football fans in Japan or England and manifests itself in the representation as a special and unique group, especially in comparison to rival teams and communities (Mahony et al., 2002; Lock, Taylor and Darcy, 2011; Wann and Branscombe, 1995). Moreover, fans show greater level of identification whenever outgroups (e.g., rival teams) are made salient: For instance, greater media attention of the Red Bull Racing Team typically results in an increased identification and attention among Mercedes team fans (Wann, 2006).
- 4) *Eustress, escape, and economic motivation* – While some individuals identify with a team to receive the stress they desire (eustress), others simply “escape [their] humdrum daily routines” (Smith, 1988 p.58; Zuckermann, 1979). Still others, are driven to identify with a specific team by pure potential economic gains, e.g., earned by ownership or sports betting (Chorbajian, 1978; Guttman, 1986). Wann (1995) has proven that the correlation between the economic motivation and the enjoyment of watching a sport is essentially high in motor racing compared to other sports (e.g., football or tennis).

With regards to *environmental causes of team identification*, one can identify three widely discussed drivers that represent the environmental influence on one’s own team identification:

- 1) *Exposure to the team* – Exposure to the team via (social) media and other routes on a repeated basis can act as a powerful driver of team identification (Gwinner and Swanson, 2003). This motive is particular crucial in a F1 context, as the teams are constantly moving from race track to race track.
- 2) *Social agents* – Since sports is a social construct by nature, other individuals can impact the own team identification heavily. For example, Wann, Tucker and Schrader (1996) revealed that friends, peers, and other fans of the team, are one of the five most common reasons for identifying with a particular team. In addition, family – especially the father - often plays a key role in the development, continuation, and termination of a team identification and is a

main driver or burden in the initial creation (Funk and James, 2001; James, 2001; Lock and Filo, 2012; Wann 1995).

- 3) *Proximity to the team and team venues* – Growing up and living close to a team can impact the decision to identify with a team and many fans “show fan-like behaviour because of the identification with a geographic area (Hunt et al., 1999, p. 444; Wann 2006). Moreover, studies have shown in different context that also the team venue and fans’ attachment to the city can foster team identification and provide them with a tangible element of identification (Lock, Taylor and Darcy, 2011; Wang and Tang, 2018; Wann, 2006). However, while teams of other sports promote their brand through hometown loyalty and regional bond, F1 teams lack geographical association: Neither do they have their own venue or race track, nor is the location of the headquarters of any significant importance to the fans (Chung and Hwang, 2015). What could be a geographic driver for team identification is the country of origin of a F1 team.

Other drivers that are repeatedly highlighted in the literature, besides the psychological and environmental causes described above, are the drama created by a team’s performance and the aesthetic value of a sporting event (Fink, Trail and Anderson, 2002; Mahony et al., 2002). The latter one has been proven to be a greater influence in motor racing compared to other sports (Wann, 1995).

## **2.3 Effects of team identification in sports**

Committed fans often exhibit different behavioural and emotional responses to team decisions (Delia and James, 2018; Lock and Funk, 2016; Lock and Heere, 2017). This section will focus on effects on consumption (e.g., race attendance, sponsor-related and team merchandise purchases), as this strongly influences the revenue blocks of the Mercedes team. In addition, other effects are also presented to have a complete picture of team identification-related responses and to be in line with the leading literature of Wann (2006). In general, fans with high team identification show significantly stronger reactions compared to fans with low team identification, regardless the sport context (Jang, Wann and Ko, 2018; Wann, 2006).

### **2.3.1 Team identification and consumption**

The construct of consumption-related effects is a sub-category of behavioural responses and consist of three types: Game consumption, team-related consumption and sponsorship consumption (Wann, 2006).

**Game consumption** refers to the direct sport consumption in form of physical attendance – e.g., F1 races – and the indirect consumption by watching a sport event via broadcasters, e.g., TV, Internet streaming, or radio (Wann, 2006).

Regarding live event attendance, team identification is considered not only the most impactful predictor of attending a sporting event, but also can explain why fans remain devoted towards their team even if it undergoes a streak of defeats, resulting in an unsatisfying event experience (Bodet and Bernache-Assollant, 2011; Mahony et al., 2002; Wann and Branscombe, 1993). Moreover, Sutton et al. (1997) suggest that identified fans have a lower price sensitivity towards ticket prices. According to studies on indirect event consumption, highly identified fans show more planning effort and post-event media consumption (Fisher, 1998; Gantz et al., 2006).

**Team-related consumption** involves the consumption of team merchandise including apparel (e.g., polos or caps) and other products (e.g., car models or backpacks) bought by fans (Wann, 2006). In this regard, Kwon and Armstrong (2002, 2006) demonstrated that team identification positively influences the buying intention of team merchandise, as it allows to publicly express their team belongingness. Their findings imply that, regardless of the gender, team identification impacts the amount of money spent on team merchandise (Kwon and Armstrong, 2002). Moreover, Fisher and Wakefield (1998) as well as Yoshida, Heere and Gordon (2015) showed a positive relationship between team identification and team merchandise purchases. Lastly, studies proved that team identification moderates the fans' word-of-mouth recommendations of team related products and that a high level of team identification encourages fans to purchase team merchandise with a new team logo, even though they dislike the redesigned logo version (Ahn et al., 2013; Apostolopoulou and Papadimitriou, 2018). However, team identification alone does not determine team-related purchase intentions (Kwon, Trail and James, 2007). Other factors like perceived product quality, attitude towards collecting, and team performance tolerance influence the relationship between team identification and team related consumption (Cheng, Yeh and Wong, 2014; Kwak and Kang, 2009; Yoshida et al., 2014). Hence, it is important for F1 teams to not only purely focus on strengthening team identification in order to increase the merchandise sales, but also to assess the perceived quality of the team's offering (Kwon, Trail and James, 2007).

**Sponsorship consumption** refers to the “fans' perception and patronage of sponsors' products” (Wann, 2006, p. 338). Organizations invest into sport sponsorship deals to be associated with the team's image and ultimately achieve a more favourable attitude of fans towards their brand and products (Wann, 2006). Despite the fact that these investments often pay off anyways, sponsors can increase their product consumption and brand image more

effectively when supporters have a high level of team identification (Delia, 2017; Deitz et al., 2012; Madrigal, 2000 and 2001).

According to Gwinner and Swanson's findings (2003), team identification has a substantial effect on the attitude towards the sponsor, sponsor recognition, and sponsor patronage as well as sponsorship satisfaction. Related to F1 and motor racing, NASCAR studies reveal that almost 50 percent of the fans surveyed would favour a team sponsor's products over another brand's products and that loyalty and purchase intention are greater for fans with high level of identification (Levin, Beasley and Gamble, 2004 and 2008; Performance Research, 1994)

### **2.3.2 Team identification and other effects**

Besides consumption-related responses of team identification, Wann (2006) distinguishes between affective, psychological and other behavioural effects of team identification.

With regards to *other behavioural responses*, team identification has been identified to be a key driver in promoting fan aggression (Scarzinzi and Pahigian, 2015; Wann, 2006). Other behavioural effects are that a high level of identification facilitates greater fan engagement, e.g., more intense management cooperation and that a team's performance impacts less the behaviour of highly identified fans. (Sutton et al., 1997; Wann and Branscombe, 1993; Yoshida et al., 2014).

Regarding *affective responses*, many studies including the one of Gantz and Wenner (1995) reveal that identified fans have an emotional response during and after sporting events of their favourite team depending on their success or failure. In this regard, Jang, Wann and Ko (2018, p. 63) proved that "sport consumers with high team identification exhibited greater degrees of happiness after recalling and imagining a boring win game compared to an exciting loss game" while low identified fans showed a similar degree of happiness between the two recall options. Moreover, Wann, Schrader, and Adamson (1998) also found that the higher the level of team identification, the higher the level of anxiety before an important game. Lastly, highly identified fans do not only enjoy their own team's successes, but in addition gain satisfaction if a rival team performs poorly (Wann, 2006). The highest satisfaction is expected whenever the favoured team beats a scorned rival (Wann, 2006).

The last subcategory, *physiological responses*, is concerned with effects on the fan's wellbeing. Here, fans have the option to improve their physiological health through two distinct routes: The first route depends on the team's performance and is embedded in the construct of BIRG and CORF. On the one hand, fans boost their self-esteem by associating with a successful

team and ultimately bask in the team's glory (Cialdini et al., 1976; Trail et al., 2012). On the other hand, fans can preserve their state of wellbeing by cutting off reflected failure whenever their favourite team performs poorly (Cialdini et al., 1976; Trail et al., 2012).

The second route is independent of the team's performance and centres around the construct of belonging. Here, fans enhance their psychological health by associating with a particular sport community in order to decrease the degree of loneliness and alienation and / or to increase their sense of worth (Mael and Ashforth, 2001; Sutton et al., 1997; Wann, 1995). The sense of worth can be especially enhanced whenever fans identify with a team to gain prestige in the eyes of existing socially desirable fan base (Sutton et al., 1997).

### **Chapter 3: Research - methodology & results**

The literature review has shown the value of team identification for sport teams and its uniqueness in the F1 context. It is of paramount importance that sport organizations understand, measure, and identify the driving identification motivations of their sport and more specifically of their own fans. Only by doing so, F1 teams can take advantage of the full potential of their fans in terms of team support and commercialisation.

#### **3.1 Research aim**

Due to the fact that there is only limited research on team identification in the F1 context, the aim of the survey is twofold:

On the one hand, it aims to close the research gap and provide an overview of team identification drivers in Formula 1. In this way, researchers, sport marketers as well as managers of sport organizations will gain greater insights into the various factors that influence a fan's team identification process and better understand differences between sports. In addition, the general impact of the popular Netflix series "Formula 1: Drive-To-Survive" on F1 team identification will be investigated. Here, an attempt is made to identify the degree of the series' impact on team identification and its specific influencing factors. This integrates the relevance of the Netflix series in recent years for the popularity boost of Formula 1 (Richards, 2022). From F1 manager's point of view, it is interesting to analyse what aspect of the series drives fans to associate with their favourite teams, because teams can decide individually in which form they participate in the Netflix series.

On the other hand, the survey strives to identify the most or least important factors for team identification in the F1 environment to derive managerial implications for the Mercedes team. Therefore, the research will purely focus on team related drivers of team identification,

since those can be influenced by a F1 team itself. Finally, the study's findings can be used by F1 team managers, particularly those at the Mercedes team, to improve their commercial, marketing, and sporting tactics in order to leverage and maintain their fan base in social and economic terms.

### **3.2 Approach and design**

This study will be conducted as a quantitative primary research which perfectly suits the purpose of this thesis as it investigates the most and least important motivations to become a fan of a F1 team by querying them directly. In order to obtain meaningful and structured results, the research will be executed in the form of a survey.

To be in line with the research goal, only factors that can be influenced by an F1 team are analysed. Therefore, the work of Wann (2006), in which three categories of team-related causes of team identification are described, serves as a basis. As reviewed above these are team performance, organizational characteristics, and players' attributes. Since those subcategories do not follow a clear structure and are just a loose description of possible antecedences in Wann's work (2006), the three groups are extended to the F1 context, systematised and partly coupled to the structure of Gennari's research on team identification (2021). This leads to the following design of the study: It will consist of three sections related to team-related drivers with several measures as possible causes for team identification and a separate section related to the impact of the Netflix series "Formula 1: Drive-To-Survive" on F1 team identification.

The first section is named *Team performance* and includes seven potential measures impacting F1 team identification. The second section is renamed from Players' attributes (Wann, 2006) to *Characteristics of Drivers, Team Principals, and other Members*, because besides the drivers themselves, team principals and other team members (e.g., chief engineers) are given a great deal of publicity during live events, on TV, and in the media. This section examines eight possible reasons for fans to identify with a F1 team. The third section is labelled *Managerial Aspects and Organizational Characteristics* following the formulation of Gennari (2021), since it helps survey participants to better understand the full meaning of this category. It contains 12 measures testing F1 specific drivers of identification. The last section *Formula 1: Drive-To-Survive related Aspects* serves the purpose to identify series-related factors that are important for fans in terms of team identification and to what extent the series impacts their fan attitude. In this context, participants are exposed to five measures. Tables 27 - 30 below contain the entire list of tested measures, which will be referred hereafter to team-related drivers:

<b>A TEAM PERFORMANCE</b>			
	<b>MEASURES</b>	<b>SOURCE</b>	<b>EXPLANATION</b>
<b>A1</b>	Team construction results obtained in F1 competition (last 3 years)	Sutton et. al (1997) Wann (2006) Ballouli et. al (2016)	A team's performance increases identification with the team, as fans hope that the positive association will reflect on them. In addition, some fans avoid being associated with a particular team when performance drops. In the F1, context, one should distinguish between team performance and the individual driver performance with a team.
<b>A2</b>	Team's fastest lap award obtained in F1 competition (last 3 years)		
<b>A3</b>	Driver's championship results obtained in F1 competition (last 3 years)		
<b>A4</b>	Drivers' pole position results obtained in F1 competition (last 3 years)		
<b>A5</b>	Better sports results than historical competitors (last 3 years)	Ashforth and Mael (1989) Wann and Branscombe (1995)	Sports fans try to distinguish themselves from supporters of rival teams to become part of something special or unique.
<b>A6</b>	Team sport results of the past (more than 3 year ago)	Delia and James (2018)	Although elements from the past cannot be altered, they are very important for the fans' identification with a team. This is especially true for past successes.
<b>A7</b>	Fair play shown by the team (last 3 years)	Gennari (2021)	Next to the pure sporting results (A1-A6), other performance characteristics of the teams have proven to be essential for the identification of sports fans.
<b>A8</b>	Team spirit shown by the team (last 3 years)		

**Table 27:** Team performance measures

**B CHARACTERISTICS OF DRIVERS, TEAM PRINCIPALS AND OTHER MEMBERS**

	MEASURES	SOURCE	EXPLANATION
<b>B1</b>	Team driver's attractiveness/fame	Fisher (1998) Fisher and Wakefield (1998) Ashforth and Mael (1989)	Two individual characteristics have received notable consideration impacting team identification: Player attractiveness and player similarity to the fan. These attributes will be also extended to the team principal, as he or she holds a prominent position to represent a F1 team.
<b>B2</b>	Team driver's similarity with fans		
<b>B3</b>	Team principal's attractiveness/fame		
<b>B4</b>	Team principal's similarity with fans		
<b>B5</b>	Former drivers, team principal and/or other team members	Delia and James (2018)	Players and coaches are a crucial source of team identification. In a F1 context, one should not only consider former drivers, but also popular team principals and other team members (e.g., engineers and mechanics) of the past.
<b>B6</b>	Players' and staff's off-track behaviors	Fink et. al (2009)	Off-field actions by athletes can have an impact on team identification, especially among strongly identified supporters. In the F1 context, this concept should be extended to team principals as well as mechanics and engineers.
<b>B7</b>	Driving skills of driver	Wann et. al (1996)	Despite the lack of sporting success, drivers' ability and skills are important for the team identification.
<b>B8</b>	Driver's and team principal's live event and (social) media appearance	Chung and Hwang (2015)	As F1 spectators' parasocial interaction has a significant impact on their level of F1 fanhood, this

			concept should be extended to team identification. Thus, drivers and team principals' appearance at live events and on social media could have an impact on team identification.
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**Table 28:** Individual characteristic measures

<b>C MANAGERIAL ASPECTS AND ORGANIZATIONAL CHARACTERISTICS</b>			
	<b>MEASURES</b>	<b>SOURCE</b>	<b>EXPLANATION</b>
<b>C1</b>	Team's history and tradition	Sutton et. al (1997) Wann (2006) Wang and Tang (2018)	Sport organizations may be able to boost team identification by reminding fans of the team's rich and distinctive traditions. Indeed, a team's history can have positive effect on team identification, but at the same time.
<b>C2</b>	Team's country of origin	Hunt et al. (1999) Wann et al. (1996) Heere and James (2007) Heere et. al (2011)	Some fans demonstrate their team commitment, especially because of the identification with a geographic region. Hence, a F1 team's origin (city and/or country) can be a source and strong influence of team identification.
<b>C3</b>	Ownership image	Sutton et. al (1997)	The team owner's image and the managerial decision-making are crucial organizational factors that influence team identification.
<b>C4</b>	Team's managerial decisions		
<b>C5</b>	Team's sponsors and partners	Pope & Voges (2000) Meenaghan (2001)	The sponsor's image may impact the team identification of a particular fan. It makes sense to expand this concept to external partners of F1 teams.
<b>C6</b>	Team's social, environmental and	Jung (2012)	When a team devotes more resources and time to environmentally and socially responsible

	educational activities	Lock and Filo (2012) Chang and Kwak (2021)	projects, fans are more likely to respond positively. This is especially true for CSR activities. Conversely, the perception that a sport team is taking away instead of giving can even lead to disidentification.
<b>C7</b>	Team's relationship with and integration of its own community	Sutton et. al (1997)	Community affiliation is one of the strongest predictors of team identification. Strong community relations, transparency and integration in decision-making demonstrate a high level of organizational integrity. This, together with the articulation of common symbols and shared goals, creates an identity of a team that is inseparable from that of the community.
<b>C8</b>	Team's traditional and social media exposure	Sutton et. al (1997) Chung and Hwang (2015) Collins et. al (2016)	While participation in the actual events increases involvement, media presence can also promote team identification. In Formula 1, this is not only about the traditional media, but in particular about the presence and appearance in the social media.
<b>C9</b>	Team's existing fan base and attractiveness	Sutton et. al (1997)	Fans identify with a team in order to gain prestige in the eyes of existing socially desirable fan base in order to ultimately increase their personal sense of worth.
<b>C10</b>	Team's car appearance and sound	Ballouli et. al (2016)	According to Ballouli et. al (2016), car specificities (e.g., new engines, new look of the car, sound of the engines) do not have a huge impact on the future support of F1 sport compared to track aesthetics and car technology. Nevertheless, it might be interesting whether the appearance and design

			of the team car has an impact on team identification.
<b>C11</b>	Drivers of talent program	OWN IDEA	The results and development of talent program drivers in other teams can have an indirect influence on the identification with one's own F1 team.
<b>C12</b>	E-sports team	Gennari (2021) Dwyer (2011)	Although E-sports is not a relevant factor influencing team identification in a football context, this can still apply to F1 because E-sports is clearly more present and promoted in this sport. In an NFL context, it has been proven that there is a relationship between the digital fan involvement – playing NFL Fantasy Football – and the team loyalty.

**Table 29:** Managerial and organizational measures

<b>D FORMULA 1: DRIVE-TO-SURVIVE RELATED ASPECTS</b>			
	<b>MEASURES</b>	<b>SOURCE</b>	<b>EXPLANATION</b>
<b>D1</b>	Have you seen the Netflix series "Formula 1: Drive-To-Survive"?	OWN IDEA	This questions simply distinguishes between fans that have or have not seen the Netflix series. All of the following measures (D2-D8) are contingent on a “Yes” to this question.
<b>D2</b>	Have you been a fan of a F1 team or a general F1 fan before the Netflix series "Formula 1: Drive-To-Survive"?	OWN IDEA	The question serves the purpose of distinguishing long-time fans from newly acquired fans through the Netflix series in order to better segment the following asked aspects.

<b>D3</b>	Has the Netflix series "Formula 1: Drive-To-Survive" increased your team identification with your favourite F1 team?	OWN IDEA	This question examines the importance of the Netflix series for one's team identification.
<b>D4</b>	The frequency of the team appearance	OWN IDEA	Because the Netflix series covers the entire F1 racing series, the frequency of visibility of one's favourite team might be of important significance to one's team identification with that particular team.
<b>D5</b>	The excitement and tension of the team clips	OWN IDEA	Not only the theming of one's favourite team might have an effect on team identification, but also the way the team is visually represented. Are the scenes dramatic, exciting and thrilling for the fan?
<b>D6</b>	Interviews with the main actors (e.g., drivers or team principals)	OWN IDEA	In addition to visual recordings, interviews with teams' main actors in might influence the own team identification. Quality, frequency and length certainly play a role here.
<b>D7</b>	New, previously unknown information about the team, e.g., behind-the-scenes insights	OWN IDEA	Newly gained information from the episodes can positively or negatively influence one's own team identification. The so-called "Behind-the-scenes insights" make a team's internal processes even more tangible for their fans.
<b>D8</b>	The accuracy of the information shown	OWN IDEA	Due to the distorted and sometimes incorrect representation

			of actions in some episodes, a biased image of team identification can arise. Hence, how important is the accuracy of information shown for one's own team identification?
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**Table 30:** Formula 1: Drive-to-Survive measures

### 3.3 Description of survey and data collection

#### 3.3.1 Description of survey

The survey contains five parts and a total of 44-55 questions (depending on condition). For the full questionnaire refer to table 31.

##### *Part 1 – Introduction and Favourite Team Questions*

In Part 1 participants are presented with the survey purpose and a question related to their favourite F1 team. Here, participants can choose between the ten existing F1 teams and the options of being just a F1 fan, but not a fan of a particular team and the option of not being a F1 fan at all.

##### *Part 2 – Team-related Drivers of F1 Team Identification*

Participants are first provided with a definition of team identification. In this regard, the survey uses the comprehensive and simple definition of Branscombe and Wann (1992, p. 1017): “The extent to which individuals perceive themselves as fans of the team, are involved with the team, are concerned with the team’s performance and view the team as a representation of themselves.”

Afterwards, all 28 team-related drivers are provided to fans according to their category and are asked about their importance. Here, participants must use a scale from 1 (not important at all) to 5 (extremely important) to indicate their level of importance in their process to identify with a particular F1 team.

##### *Part 3 – Formula 1: Drive-To-Survive related Aspects*

In this part, participants are asked whether they have seen the Netflix series “Formula 1: Drive-To-Survive”. Fans who answered “No” do not receive any further questions regarding this topic. Fans who answered “Yes” are provided with additional questions about the degree

of impact towards their existing or new team identification process and what specific elements of the series are least and most important for them to identify with a particular F1 team. For the latter ones, participants must again use a scale from 1 (not important at all) to 5 (extremely important) to indicate the level of importance.

#### *Part 4 – Additional dimensions of team identification*

Here, participants are asked to answer three specific questions regarding their favourite team and identification development. This part interrogates other known team identification drivers which can serve as a possible segmentation variable.

#### *Part 5 – Demographics*

These questions concerned the demographics of age, gender, nationality, and employment status. Here, all questions are answered from a multiple-choice list.

### **3.3.2 Data collection**

The study is using the online platform Qualtrics (<https://www.qualtric.com>) to provide participants with the survey questions and hence is conducted in a complete digital format. Participants therefore required a computer or mobile device and all (conditional) questions are presented obligated to answer. The survey was online for three weeks, from the 6<sup>th</sup> to the 27<sup>th</sup> of June 2022, and was distributed through multiple platforms. In this way, the survey aimed to collect as many responses as possible from a heterogeneous public in terms of preferred F1 team and demographics.

## **3.4 Results of survey**

### **3.4.1 Sample**

In total 181 individuals completed the survey. From this, 23 participants are excluded from the analysis as they have not completed the full questionnaire. Moreover, 12 other participants are also excluded, because they stated to not be a F1 one fan at all or have shown abnormal completion behaviour. Thus, overall, 146 responses are considered for the analysis. Among them are 124 responses from men and 22 from women. The majority of participants are between 18 and 34 years old (133) and come from Germany or Italy (100). In addition, most participants stated to be fans of Ferrari (45), Red Bull (27), or Mercedes (23). Lastly, only 35 of the participants have already attended a F1 race. To obtain a detailed overview, please refer to tables 32 – 37.

### 3.4.2 Driver analysis

The analysis and interpretation assess the relevant 146 results and compare them with the subgroup of Mercedes fans (23) to draw specific implications for the Mercedes team analysis. Below table 38 present the average importance of each team-related driver for the whole population and the subgroup of Mercedes. The difference shows the deviations between both groups.

	<b>Driver Category</b>	<b>Average General Fans</b>	<b>Average Mercedes Fans</b>	<b>Difference</b>
<b>A</b>	<b>Overall Team Performance</b>	<b>3.60</b>	<b>3.69</b>	<b>0.15</b>
<b>A1</b>	Team construction results obtained in F1 competition	3.67	3.91	0.24
<b>A2</b>	Team's fastest lap award obtained in F1 competition	2.57	2.48	-0.09
<b>A3</b>	Driver's championship results obtained in F1 competition	4.16	4.57	0.40
<b>A4</b>	Drivers' pole position results obtained in F1 competition	3.32	3.26	-0.05
<b>A5</b>	Better sports results than historical competitors	3.31	3.61	0.30
<b>A6</b>	Team sport results of the past	3.54	3.70	0.15
<b>A7</b>	Fair play shown by the team	3.70	3.87	0.17
<b>A8</b>	Team spirit shown by the team	4.07	4.13	0.06
<b>B</b>	<b>Overall characteristics of drivers, team principals and other members</b>	<b>3.54</b>	<b>3.56</b>	<b>0.03</b>
<b>B1</b>	Team driver's attractiveness/fame	3.75	3.70	-0.05
<b>B2</b>	Team driver's similarity with fans	3.27	3.48	0.21
<b>B3</b>	Team principal's attractiveness/fame	3.30	3.43	0.13
<b>B4</b>	Team principal's similarity with fans	2.81	2.96	0.15
<b>B5</b>	Former drivers, team principals and/or other team members	3.70	3.52	-0.18
<b>B6</b>	Players' and staff's off-track behaviours	3.90	3.87	-0.03

<b>B7</b>	Driving skills of driver	4.37	4.39	0.02
<b>B8</b>	Driver's and team principal's live event and (social) media appearance	3.22	3.13	-0.09
<b>C</b>	<b>Overall managerial aspects and organizational characteristics</b>	<b>3.31</b>	<b>3.28</b>	<b>-0.03</b>
<b>C1</b>	Team's history and tradition	3.95	4.04	0.10
<b>C2</b>	Team's country of origin	3.51	3.96	0.44
<b>C3</b>	Ownership image	3.49	3.74	0.25
<b>C4</b>	Team's managerial decisions	3.70	3.87	0.17
<b>C5</b>	Team's sponsors and partners	3.13	2.91	-0.22
<b>C6</b>	Team's social, environmental and educational activities	3.39	3.48	0.09
<b>C7</b>	Team's relationship with and integration of its own community	3.38	3.26	-0.12
<b>C8</b>	Team's traditional and social media exposure	3.39	3.26	-0.13
<b>C9</b>	Team's existing fan base and attractiveness	3.39	3.04	-0.35
<b>C10</b>	Team's car appearance and sound	3.73	3.39	-0.33
<b>C11</b>	Drivers of talent program	3.00	2.70	-0.30
<b>C12</b>	E-sports team	1.64	1.70	0.06

**Table 38:** Average importance of each driver

Comparing the three categories, general fans attribute the highest importance to category A "Team Performance" (3.60), closely followed by category B "Characteristics of drivers, team principals and other members" (3.54), while category C "Managerial aspects and organizational characteristics" (3.31) appears less important for the identification with a F1 team. The same ranking can also be observed for Mercedes fans.

Overall, the most important individual factor for the identification with a F1 team is B7 "Driving skills of driver" (4.37), while the least important factor is C-12 "E-sports team" (1.64). The latter one is also true for Mercedes fans, however they rank A3 "Driver's championship results obtained in F1 competition (last 3 years)" as the most important driver for their fan being.

### 3.4.3 Discussion of results

This section focuses on the most and least important F1 team identification drivers, as well as unexpected results obtained in both groups. Each category is analysed individually.

With regards to *category A*, it is not surprising that in the highest racing class of motorsport, the overall team performance is valued as extremely important by F1 fans. This finding is in line with Wann, Tucker and Schrader (1996) who state that team success is one of the most powerful drivers of team identification. The even higher perceived importance of team performance by Mercedes fans (0.69) might be explained by the many achievements in the team's history which might have created an automatic desire to bask in the reflected glory.

In more detail, fans classify the driver's championship results (A3) as the most important reason to identify with a F1 team. This effect is even 0.40 points higher for Mercedes fans. This underlines that the driver championship is more important than the constructor championship (A1) for team identification and shows that the individual driver performance is valued as representative for the entire team. This insight comes not unexpected as Ballouli and Trail (2016) revealed that the sporting success positively impacts the team identification via the attachment to the driver which in turn heavily depends on their driving performance. This might also explain the increased importance of drivers for Mercedes fans, as the team has with Lewis Hamilton one of the most successful drivers of all time in their cockpit.

Another crucial identification driver is A7 "team spirit" (4.07), illustrating that fans nevertheless are not only influenced by the individual sport performance by the drivers, but also by the team's commitment and values shown to achieve their best. Contrary, the least important factor related to the team performance is A2 "Team's fastest lap award" which is even less valued by the Mercedes subgroup (-0.09). This finding highlights that fans evaluate the overall team performance higher than partial successes for their identification process.

An interesting finding in the comparison between the general fans and the Mercedes subgroup is that Mercedes fans rate A5 "Better sports results than historical competitors" as more relevant (0.30). In accordance with Wann and Branscombe (1995) and Wann (2006), Mercedes' fans seem to have a higher need to distinguish themselves from other teams (e.g., Red Bull or Ferrari) and to be part of a unique sport organization which is perhaps a result of the described utter sporting dominance.

With regards to *category B*, individual team member characteristics are also particularly crucial for the identification with a F1 team. This could be expected, as previous studies have demonstrated that F1 is a sport in which fans particular identify themselves with individual drivers and that this attachment strongly affects the team identification (Ballouli and Trail,

2016; Chung and Hwang, 2015; FOM, 2021d). This becomes particularly evident when looking at the two highest scores of this category: B7 “Driving skills of driver” (4.37) and B1 “Team driver’s attractiveness/fame” (3.75). Here, fans identify more with a F1 team when drivers have strong driving skills compared to their level of attractiveness. In general, the drivers’ role in the team identification process is also reinforced by the fact that 89 fans (61%) stated to be a fan of a F1 team primarily because of a particular driver. This effect is even stronger for the Mercedes subcategory (65%) which might be explained due to their current and past driver line-up with stars like Lewis Hamilton or Nico Rosberg.

Another important driver for F1 team identification is B6 “Players’ and staff’s off-track behaviours” (3.90) which supports the findings of Fink et al. (2009). Because attending a F1 Grand-Prix is severely difficult for most fans (e.g., due to high prices, long distances to Grand-Prix location) and receiving off-track information and insights is fairly simple (e.g., due to the omnipresence of media in the F1 world and social media accounts), off-track behaviour of drivers and staff is taken even stronger into account when forming and maintaining team identification.

Comparing the total fan responses with those of the Mercedes subgroup, it is striking that Mercedes fans attribute a greater importance (0.13) to the team principal’s attractiveness (B3) and less relevance (-0.18) to former team members (B5). The importance of the team principal might be explained by the fact that Toto Wolff is particularly present and vocal and that his contribution to sporting performance is perceived as greater compared to other team managers. The fact that former team members play a less important role for the identification process might be justified by the team’s own history: Before the re-entering in 2010, Mercedes-Benz only participated with an own work team in between 1954 and 1955.

Within *category C*, the general F1 fans value the team’s history and tradition (C1) as well as the car appearance and its sound (C10) the most. The same can be observed for the Mercedes subgroup. A sport like F1 that is held at a different race track each time lacks a geographic association. Therefore, the cultural roots and historic elements might play a more crucial role for team identification, because it provides fans with this missing sense of belonging (Boyle and Magnusson, 2007). Following the reasoning of Underwood et al. (2001), the car is one of the few tangible elements besides team merchandise that allows fans to associate with. In addition, it can also be used as a differentiator from other teams to create the sense of a unique organization (Wann and Branscombe, 1995).

Another strong influencing factor for the identification with a F1 team is (C4) “Team’s managerial decisions” (3.70) which confirms the findings of Wann (2006). This includes

whether a team participates in a series format such as “Formula 1: Drive-To-Survive”. Mercedes' decision to become part of the Netflix documentary has proven to be right for the following survey findings: First, the majority was interested in such a format (68% of all participants watched the series). Second, more than half of those participants stated that the show probably or definitely increased their team identification process. Lastly, 23 participants indicated that they had become a fan of a particular F1 team (including four Mercedes fans) as a result of the series. In more detail, teams should ensure that interviews with the main protagonists of the sport and previously unknown information about the team are frequently implemented in such documentary formats, as these are the most important factors for fans with regards to team identification (compare table 39).

Although the FOM widely promotes its e-sports racing series, an e-sport team (C12) has little significant meaning for the participants to identify with a particular team. Arguably it is for most fans a simple ancillary element of the entire organization and only relevant to niche fans. Lastly, it is interesting that Mercedes fans rate the origin of a team (C2) as significantly more important for their team identification than all other fans (+0.44). 19 of the 23 Mercedes fans come from Germany. One of many possible reasons is probably the great admiration for the Mercedes brand and its attachment to Germany (Sonnenberg, 2022).

After the individual categories have been evaluated in detail, table 40 lists the drivers according to their respective 4-O model outcome. It should be considered that not all drivers contribute to an outcome, that not the same number of drivers are in each outcome category, and that some drivers are listed twice due to their dual function. Taking these circumstances into account, it can be said that F1 fans value the most educational drivers (3.62) followed by sport (3.49), financial (3.44) and social drivers (3.25). The same ranking of importance for being a fan applies to Mercedes fans.

The fact that in the highest FIA racing series fans value drivers contributing to sporting outcomes as important for their fan affiliation is intuitive. Mercedes fans place even more emphasis on the sporting outcomes for their team identification (+0.09). However, that fans of both groups contribute higher importance to drivers supporting educational outcomes, for example promoting values of the sport (A7 or A8) or transferring the organizational legacy (C1), is surprising. For Mercedes fans in particular, this might be due to the fact that the team spirit and the demonstration of history and tradition are of special importance for their team identification process. The unexpected finding that fans perceive drivers leading to social outcomes as less important can be relativised when one values C12 (1.64) as an anomaly. By

doing so, drivers promoting social and financial outcomes are then almost equally important. Still, Mercedes fans still value social outcome drivers as least crucial, which is due to the low value placed on media activities (B8, C8) and fan base cohesion (C7, C9).

### 3.5 Segmentation analysis

In this subchapter, certain segmentation variables are used from the survey (Part 4) to analyse whether the importance of individual drivers in specific subgroups differs from the general public. In the following, fans who have attended a local F1 race where their favourite team has raced (3.5.1) and fans who have developed their team affiliation through the influence of social agents (3.5.2) are considered. As previously, the average importance of each driver is compared with the value from all participants.

#### 3.5.1 Segmentation by F1 race attendance: Results and discussion

The fact that fans make a considerable investment of time and economic effort to see their favourite F1 team shows a high level of team identification (Wann and Branscombe, 1993). Fans not only need to travel to the few Grand Prix locations, sometimes far away from their place of residence, but also have to spend on average \$293 for the cheapest grandstand tickets (Pryson, 2022). Therefore, this group of F1 fans is of great interest for the team to leverage their commitment towards their favourite team and drivers.

Table 41 shows the results of the segmentation by fans who have attended a race where their favourite team has raced:

	<b>Driver Category</b>	<b>Average of fan attending F1 race</b>	<b>Difference to regular fans</b>
<b>A</b>	<b>Overall Team Performance</b>	<b>3.63</b>	<b>0.03</b>
<b>A1</b>	Team construction results obtained in F1 competition	3.94	0.27
<b>A2</b>	Team's fastest lap award obtained in F1 competition	2.63	0.06
<b>A3</b>	Driver's championship results obtained in F1 competition	4.20	0.04
<b>A4</b>	Drivers' pole position results obtained in F1 competition	3.43	0.11

<b>A5</b>	Better sports results than historical competitors	3.29	-0.02
<b>A6</b>	Team sport results of the past	3.69	0.14
<b>A7</b>	Fair play shown by the team	3.60	-0.10
<b>A8</b>	Team spirit shown by the team	4.23	0.16
<b>B</b>	<b>Overall characteristics of drivers, team principals and other members</b>	<b>3.63</b>	<b>0.09</b>
<b>B1</b>	Team driver's attractiveness/fame	3.66	-0.09
<b>B2</b>	Team driver's similarity with fans	3.31	0.05
<b>B3</b>	Team principal's attractiveness/fame	3.34	0.04
<b>B4</b>	Team principal's similarity with fans	2.94	0.13
<b>B5</b>	Former drivers, team principals and/or other team members	3.89	0.19
<b>B6</b>	Players' and staff's off-track behaviours	3.94	0.04
<b>B7</b>	Driving skills of driver	4.63	0.26
<b>B8</b>	Driver's and team principal's live event and (social) media appearance	3.31	0.10
<b>C</b>	<b>Overall managerial aspects and organizational characteristics</b>	<b>3.45</b>	<b>0.14</b>
<b>C1</b>	Team's history and tradition	4.20	0.25
<b>C2</b>	Team's country of origin	3.43	-0.09
<b>C3</b>	Ownership image	3.74	0.26
<b>C4</b>	Team's managerial decisions	3.83	0.13
<b>C5</b>	Team's sponsors and partners	3.26	0.13
<b>C6</b>	Team's social, environmental and educational activities	3.40	0.01
<b>C7</b>	Team's relationship with and integration of its own community	3.43	0.05
<b>C8</b>	Team's traditional and social media exposure	3.49	0.10
<b>C9</b>	Team's existing fan base and attractiveness	3.54	0.15

<b>C10</b>	Team's car appearance and sound	3.77	0.05
<b>C11</b>	Drivers of talent program	3.46	0.46
<b>C12</b>	E-sports team	1.89	0.25

**Table 41:** Average importance of each driver by F1 race attended

First of all, it is striking that the difference between the most important category and the least important category is significantly smaller in comparison (0.18 vs. 0.29). In addition, fans who have participated in a F1 race to support their favourite team, rate the individual characteristics (3.63) as equally important as the sporting team performance (3.63). Both may be related to the fact that this type of highly identified fan is much more involved with the team and F1 in their everyday lives and therefore also values things that other fans consider irrelevant. This would also explain why this group of fans values drivers like C1 (+0.25), C3 (+0.26) C11 (+0.46) or C12 (+0.25) as more important for their identification, since these drivers represent elements of a F1 team that are not among the most obvious aspects to take care of.

Moreover, the results also indicate a clear trend that fans who attend a F1 race to support their favourite team place greater emphasis on sporting results (e.g., A1: +0.27 or A4: +0.11). This might be explained by the greater desire to bask in the reflected glory during the race weekend and the possibility to publicly express their team in times of success (Kwon and Armstrong, 2002 and 2006; Trail et al., 2012).

### **3.5.2 Segmentation by social agent influence: Results and discussion**

Social agents (e.g., parents, family members, friends) influence the team identification with one's favourite team, especially in its formation process (James, 2001; Wann, Tacker and Schrader, 1996). Hence, fans that have become a fan of a team primarily because of a social agent's influence may rank certain team identification drivers differently compared to the regular participants. Since almost every third fan becomes a fan for this reason, the subgroup is relevant for teams like Mercedes in order to understand how to influence and impact this group of fans.

Table 42 shows the results of the segmentation by fans who support a particular F1 team as a result of the influence of others:

<b>Driver Category</b>		<b>Average of fans who become fan because of others</b>	<b>Difference to regular fans</b>
<b>A</b>	<b>Overall Team Performance</b>	<b>3.60</b>	<b>0.01</b>
<b>A1</b>	Team construction results obtained in F1 competition	3.69	0.02
<b>A2</b>	Team's fastest lap award obtained in F1 competition	2.61	0.04
<b>A3</b>	Driver's championship results obtained in F1 competition	4.10	-0.07
<b>A4</b>	Drivers' pole position results obtained in F1 competition	3.25	-0.06
<b>A5</b>	Better sports results than historical competitors	3.47	0.16
<b>A6</b>	Team sport results of the past	3.88	0.34
<b>A7</b>	Fair play shown by the team	3.63	-0.07
<b>A8</b>	Team spirit shown by the team	4.18	0.11
<b>B</b>	<b>Overall characteristics of drivers, team principals and other members</b>	<b>3.56</b>	<b>0.02</b>
<b>B1</b>	Team driver's attractiveness/fame	3.88	0.14
<b>B2</b>	Team driver's similarity with fans	3.29	0.03
<b>B3</b>	Team principal's attractiveness/fame	3.37	0.07
<b>B4</b>	Team principal's similarity with fans	2.94	0.13
<b>B5</b>	Former drivers, team principals and/or other team members	3.90	0.20
<b>B6</b>	Players' and staff's off-track behaviours	3.78	-0.12
<b>B7</b>	Driving skills of driver	4.33	-0.04
<b>B8</b>	Driver's and team principal's live event and (social) media appearance	3.00	-0.22
<b>C</b>	<b>Overall managerial aspects and organizational characteristics</b>	<b>3.38</b>	<b>0.07</b>

<b>C1</b>	Team's history and tradition	4.16	0.21
<b>C2</b>	Team's country of origin	3.80	0.29
<b>C3</b>	Ownership image	3.63	0.14
<b>C4</b>	Team's managerial decisions	3.65	-0.05
<b>C5</b>	Team's sponsors and partners	2.84	-0.29
<b>C6</b>	Team's social, environmental and educational activities	3.27	-0.12
<b>C7</b>	Team's relationship with and integration of its own community	3.49	0.11
<b>C8</b>	Team's traditional and social media exposure	3.43	0.04
<b>C9</b>	Team's existing fan base and attractiveness	3.63	0.24
<b>C10</b>	Team's car appearance and sound	3.73	0.00
<b>C11</b>	Drivers of talent program	3.22	0.22
<b>C12</b>	E-sports team	1.73	0.09

**Table 42:** Average importance of each driver by influence of social agents

It is noticeable that these fans value the past successes (B6: +0.34) even greater for their team identification process than regular participants. This could be due to the fact that especially parents (in particular fathers) have a strong influence on the team identification process of their children (James, 2001). Here, parents might use the successes from their past experience with the team to make the team appealing to their children. Therefore, these fans may have a stronger attachment to past successes than other fans. The same reasoning could also explain the increased importance of B5 (+0.2) and C1 (+0.21), as both represent elements of the team's history. Moreover, the results also show that fans who have become a fan of a team primarily because of others value the team's country of origin (C2: +0.29) and the team's existing fan base and attractiveness (C9: +0.24) as more important.

The greater emphasis on the existing fan base and its attractiveness could be related to the fact that this group of fans support a team precisely because of other fans and therefore consider these in-group members to be more important to their team identification. A similar reasoning can be derived for the origin of the team: The facts that 64% of this subgroup come from the same country as their favourite F1 team and that fans are primarily influenced by people from their closer community (ergo same location) suggest that the country serves as a

commonality between the fan and its social influencer and is therefore rated as more important for the team identification process. Lastly, it is noteworthy that this group of fans attaches less importance to the live event and (social) media appearance (B8: -0.22) and the team's sponsors and partners (C5: -0.29).

However, in the end, this segmentation analysis also reveals that on average fans who have become fans primarily because of other's influence do not differ so much from the general fans in terms of their category ranking. The deviation is minimal and overall performance-related drivers (category A) are more important than individual characteristics (category B), followed by managerial and organizational drivers (category C).

## **Chapter 4: Conclusion and implications**

### **4.1 Implications for management**

The following implications for the Mercedes team and other F1 teams related to team identification in F1 can be drawn from the survey results:

- 1) *Team performance* – Overall, it is the most important factor for team identification in F1. Therefore, teams should focus on their sporting performance, with a special focus on winning the driver championships (A3) in order to increase their fan support and identification level among fans. Moreover, as team spirit plays a key role, teams are recommended to use this element explicitly in their external representation and marketing strategies.
- 2) *Importance of drivers* – One of the most important reasons for identifying with the team are the drivers. Almost two-thirds of the respondents explicitly state that they became fan of a team particular because of a driver. Moreover, many characteristic drivers (e.g., B7, B1) are valued as crucial for the team identification process. If teams aim to increase their popularity among fans, signing popular drivers is therefore a promising strategy. Especially in today's digital world.
- 3) *Team's history and tradition* – The findings suggest a team's history and tradition is the most important factor for team identification related to organizational characteristics. Accordingly, F1 teams should revive the past successes and magical moments in their fan strategy and maintain special traditions to provide fans with a sense of belonging and uniqueness.
- 4) *Team's managerial aspects* - Whether and how strongly F1 fans identify with a team is also strongly influenced by the managerial decisions made by a team. Therefore, an honest and transparent communication about the reasoning, risks, and opportunities behind major

decisions is recommended. With regard to digital marketing, it is advisable to participate in so called “behind the scenes formats” such as “Formula 1: Drive-To-Survive”, as it not only increases team identification among existing fans, but also attracts new fans for F1 teams.

- 5) *Team’s country of origin* – With a particular focus on the Mercedes fan strategy, the team’s origin should be leveraged, since this driver is perceived by Mercedes fans as clearly more important compared to the general participants answers. It is therefore advisable to use the association with Germany and the parent company Mercedes-Benz to their advantage.

#### **4.2 Limitations and implications for future research**

With regards to the Mercedes case study (4-O model), the analysis could possibly be enriched by further insider knowledge from the team itself, as the analysis is mainly based on secondary research.

Concerning the research about team identification in the F1 industry, the variety of studies with different research aims makes it well-nigh impossible to discuss and include every driver influencing team identification in the survey. In addition, generalising previous findings and applying them to different conditions is risky, as team identification is always impacted by the sport and environmental context. Ultimately, the results should be interpreted with caution, because the sample cannot be fully representative of F1 fans and in particular of Mercedes fans worldwide.

Despite these limitations, suggestions for further research also emerge. As the thesis has successfully indicated which factors are most and least important for fans to identify with a F1 team, future research should on the one hand enrich these findings by considering other additional factors, and on the other hand apply the results to specific situations to examine the changing importance of factors. In addition, future research can use the results to compare team identification habits between sports.

With regards to the case study, future research can leverage Mercedes’ strategies described to succeed as an organization in order to improve the managerial side in the sport context and create a comprehensive literature overview of best practices in terms of sporting, financial, and socio-educational decisions in the F1 industry.

#### **4.3 Conclusion**

In summary, this thesis has analysed the practises and outcomes of the Mercedes F1 team vital for the sporting, financial, and socio-educational achievements (compare table 43)

and has helped F1 teams to leverage their fan base by identifying the most and least important drivers for the F1 team identification process.

With regards to the Mercedes team, the thesis revealed the following learnings for sport management and future researchers: Besides the financial budget, the Mercedes team has proven that the organizational approach (people centric structure, detail-oriented processes, integrated managerial strategy) is of utmost importance for the sporting success. Beyond the financial gains from that sporting achievements, the Mercedes team has also shown that exploiting its marketing value and positioning as a value-adding partner is essential to reach financial sustainability. Moreover, many of the socio-educational measures do not purely transfer the organizational legacy, but at the same time reveal how to attract new talent and help to cope with future competitive changes at an early stage. Lastly, the team's fan strategy demonstrates how to address the growing importance of fans, especially in the digital sports era.

The findings of the literature review justify the efforts of the Mercedes team, because highly identified fans have a positive impact on a team's outcomes, e.g., higher likelihood of team merchandise and sponsor-related purchases or a stronger team engagement and support. Nevertheless, these positive behavioural effects of team identification cannot be taken for granted, but need to be stimulated through drivers to identify with a particular team. Here, the fan survey revealed which team-related drivers are most (e.g., driving skills or drivers' championship results) and least (e.g., e-sports team or team's fastest laps) important for the identification process. It has become evident that team identification in the F1 context is mainly centred around the team's drivers and the overall sporting performance. Surprisingly, Mercedes fans value the country of origin of their team as an important driver for their team identification as well. Moreover, the results revealed the high interest in behind-the-scenes documentaries and its positive impact on team identification. In the end, F1 teams like the Mercedes team need to leverage this momentum in order to build and manifest their own fan base and capture the benefits of identified fans.

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## TABLES AND FIGURES

**Table 1:** Constructors' and drivers' championship by team since 1950

Team	Number of construction championships	Number of driver championships
Ferrari	16	15
Williams	9	7
McLaren	8	12
<b>Mercedes</b>	<b>8</b>	<b>9</b>
Lotus	7	6
Red Bull	4	4
Brabham	2	4
Cooper and Renault	2	2
BRM, Matra, Tyrrell, Benetton, Brawn	1	1
Vanwall	1	-

Note: The FIA F1 Drivers' World Championship has existed since 1950, while the Constructors' World Championship was only officially introduced in 1958.

Sources: adapted from FOM (2022d and 2022g) and Lugert (2021)

**Table 2:** Mercedes driver from 2010 onwards and their personal achievements

Name	Achievements prior to Mercedes engagement	Length of Mercedes engagement	Achievements during Mercedes engagement
Michael Schumacher	1x German F3 Champion 7x F1 World Champion	2010-2012	-
Nico Rosberg	1x European F3 Champion 1x F2 Champion	2010-2016	1x F1 World Champion 23x race wins
Lewis Hamilton	1x European F3 Champion 1x F2 Champion 1x F1 Champion	2013 - Today	7x F1 World Champion 82x race wins
Valtteri Bottas	1x Formel Renault Champion	2017-2021	10x race wins
George Russel	1x British F4 Champion 1x F3 Champion 1x F2 Champion	2022 – Today	-

Sources: adapted from Mercedes F1 (2018b, 2022k and 2022l), Motorsport Magazin (2022a and 2022b)

**Table 3:** Vision, mission, purpose, values, ethos & season intent of Mercedes team

Category	Statement
<b>Vision</b>	We are the creators of the Silver Arrows and we aspire to become unbeatable in every challenge we undertake
<b>Mission</b>	To win sustainably on track and in business, embodying our values and our culture
<b>Purpose</b>	Create the very best – for our fans, our customers and each other
<b>Values (P-R-I-D-E)</b>	
Passion	<p>We love what we do, we share high energy and drive and we celebrate our achievements. We have a can-do outlook that motivates us to perform at our best every day, on and off the track. We do it for our families, for each other, for our stakeholders and for our fans.</p> <p>Passion is <i>not</i> showing high or uncontrolled emotion on the job that can have a distracting or negative impact on the performance of team members.</p>
Respect	<p>Our good reputation is our most valuable asset and we work to enhance it. We listen, we challenge openly and constructively, and we give credit where it is due. We prize humility, teamwork and safety as we commit to delivering the best team result. Trust, integrity and sportsmanship are integral to our success.</p> <p>Showing respect is <i>not</i> shying away from giving and receiving constructive challenge where it is beneficial to the team, even if you are not the subject matter expert.</p>
Innovation	<p>With a pioneering spirit, we strive to be creative in our thinking and to approach new ideas with an open mind. We are not afraid to take calculated risks and we learn and grow from our setbacks. We must constantly innovate to stay ahead of the competition.</p> <p>Being innovative does not mean making decisions or taking action with no consideration of the potential risks or without following the appropriate channels.</p>
Determination	<p>We never back off and we keep a level head when the pressure is on. We share the workload and we take ownership of our tasks to deliver the best possible results. Winning in F1 is a massive challenge and we must never give up in pursuit of our team intent.</p> <p>Having determination does not mean pursuing a task or idea without due analysis of its impact.</p>
Excellence	<p>We always aim to raise our standards and to set the benchmark within our sport, striving to exceed our own objectives. We must never be satisfied with second best. Striving for excellence does not mean that mistakes will never be made. Setbacks are expected and should be learned from.</p>
<b>Ethos</b>	The challenge of winning in F1 is formidable because of the outstanding quality of our competitors. And this is our mindset: the greater the challenge, the better.

At the end of each working day, we ask ourselves: "Did I do a better job today than my opposite number in every other team?" And we aim to answer with honesty and self-criticism: "Yes!" This is how we build a team of champions. This is what makes a team greater than the sum of its parts.

We demand the very best from ourselves and give our very best to each other every day. We are determined and confident in our capability to win through technical excellence and teamwork. As members of the Silver Arrows, we are empowered to achieve our goals. We honor that responsibility by delivering to the best of our abilities and to the highest standards of quality.

At the heart of our performance is trust: we have the courage to fail, the character to be accountable and the strength to see failure as an opportunity. When we make mistakes, we transform them into opportunities to learn and improve. Each day we fail is a day for our rivals to regret, because these are the days when we become even stronger to beat them again.

Every member of the Silver Arrows has a voice. Each of us has a duty to make our voice heard and to listen to others when they do the same. We see it, say it and fix it because we raise the inconvenient truths.

Winning on track brings an unparalleled sense of achievement that rewards and feeds our passion. To achieve our vision, the Silver Arrows team including our drivers will – and must – be tested.

In the face of these tests, we contribute positively to motor racing and the legacy of the Silver Arrows by maintaining the highest levels of integrity in the context of intense competition.

This is the way we love it: no excuses, no blame – just passion, respect, innovation, determination and excellence.

Best team wins. Best driver wins. In that order.

Sources: adapted from Elberse and Vicente (2022, p. 24-26)

**Table 4:** Constructors' and drivers' championship since 2010

<b>Year</b>	<b>Driver Championship</b>	<b>Constructors Championship</b>
2010	Sebastian Vettel (Red Bull)	Red Bull
2011	Sebastian Vettel (Red Bull)	Red Bull
2012	Sebastian Vettel (Red Bull)	Red Bull
2013	Sebastian Vettel (Red Bull)	Red Bull
2014	<b>Lewis Hamilton (Mercedes)</b>	<b>Mercedes</b>
2015	<b>Lewis Hamilton (Mercedes)</b>	<b>Mercedes</b>
2016	<b>Nico Rosberg (Mercedes)</b>	<b>Mercedes</b>
2017	<b>Lewis Hamilton (Mercedes)</b>	<b>Mercedes</b>
2018	<b>Lewis Hamilton (Mercedes)</b>	<b>Mercedes</b>
2019	<b>Lewis Hamilton (Mercedes)</b>	<b>Mercedes</b>
2020	<b>Lewis Hamilton (Mercedes)</b>	<b>Mercedes</b>
2021	Max Verstappen (Red Bull)	<b>Mercedes</b>

Sources: adapted from FOM (2022d and 2022g)

**Table 5:** Team performance per season since 2010

<b>Year</b>	<b>Races</b>	<b>Race Wins</b>	<b>Pole Positions</b>	<b>Fastest Race Lap</b>	<b>Driver Standings</b>	<b>Constructors Standing</b>	<b>Construction Points</b>	<b>% of total Points</b>
<b>2010</b>	19	0	0	0	7 <sup>th</sup> & 9 <sup>th</sup>	4 <sup>th</sup>	214	11.2%
<b>2011</b>	19	0	0	0	7 <sup>th</sup> & 8 <sup>th</sup>	4 <sup>th</sup>	165	8.6%
<b>2012</b>	20	1	1	3	9 <sup>th</sup> & 13 <sup>th</sup>	5 <sup>th</sup>	142	7.5%
<b>2013</b>	19	3	8	1	4 <sup>th</sup> & 6 <sup>th</sup>	2 <sup>nd</sup>	360	18.8%
<b>2014</b>	19	16	18	12	1 <sup>st</sup> & 2 <sup>nd</sup>	1 <sup>st</sup>	701	34.7%
<b>2015</b>	19	16	18	13	1 <sup>st</sup> & 2 <sup>nd</sup>	1 <sup>st</sup>	703	36.6%
<b>2016</b>	21	19	20	9	1 <sup>st</sup> & 2 <sup>nd</sup>	1 <sup>st</sup>	765	36.1%
<b>2017</b>	20	12	15	9	1 <sup>st</sup> & 3 <sup>rd</sup>	1 <sup>st</sup>	668	33.1%
<b>2018</b>	21	11	13	10	1 <sup>st</sup> & 5 <sup>th</sup>	1 <sup>st</sup>	655	31.8%
<b>2019</b>	21	15	10	9	1 <sup>st</sup> & 2 <sup>nd</sup>	1 <sup>st</sup>	739	34.5%
<b>2020</b>	17	13	15	9	1 <sup>st</sup> & 2 <sup>nd</sup>	1 <sup>st</sup>	573	33.3%
<b>2021</b>	22	9	9	10	2 <sup>nd</sup> & 3 <sup>rd</sup>	1 <sup>st</sup>	613.5	27.8%

Sources: adapted from FOM (2022d, 2022g and 2022s)

**Table 6:** Comparison of dominant F1 eras by percentage share

Race wins	Laps led	Pole position	Podiums	Total constructions points	Point distance to 2 <sup>nd</sup> place
<b>Mercedes</b> 70%	<b>Mercedes</b> 68,2%	<b>Mercedes</b> 74,8%	<b>Mercedes</b> 48,5%	Ferrari 34,7%	Williams 13,9%
McLaren 54,7%	Williams 62,1%	Williams 72,6%	Ferrari 39,3%	Williams 34,1%	McLaren 13,4%
Williams 54,4%	Red Bull 58,8%	67,9% Red Bull	Williams 37,2%	<b>Mercedes</b> <b>33,5%</b>	Ferrari 12,6%
Red Bull 53,5%	McLaren 48,6%	46,1% McLaren	Red Bull 37%	McLaren 31,6%	<b>Mercedes</b> <b>10,2%</b>
Ferrari 52,3%	Ferrari 48,4%	45,9% Ferrari	McLaren 34,6%	Red Bull 28,4%	Red Bull 6,4%

<sup>I</sup> Consideration of the following dominant F1 eras: McLaren (1984-1991), Williams (1992-1997), Ferrari (1999-2008), Red Bull (2010-2013) and Mercedes (2014-2021)

<sup>II</sup> Percentual average of each category, because absolute values would be misleading as number of races, laps, points per place have changed over time

Sources: adapted from FOM (2022d and 2022g)

**Table 7:** Top 5 teams with most races wins during a single season (%)

Year	Team	Race wins
1988	McLaren	93,8%
<b>2016</b>	<b>Mercedes</b>	<b>90,5%</b>
2002	Ferrari	88,2%
<b>2014</b>	<b>Mercedes</b>	<b>84,2%</b>
<b>2015</b>	<b>Mercedes</b>	<b>84,2%</b>

<sup>I</sup> Consideration of the following dominant F1 eras: McLaren (1984-1991), Williams (1992-1997), Ferrari (1999-2008), Red Bull (2010-2013) and Mercedes (2014-2021)

Sources: adapted from FOM (2022d and 2022g)

**Table 8:** Top 5 teams with most laps led during a single season (%)

Year	Team	Laps led
1988	McLaren	97,3%
<b>2014</b>	<b>Mercedes</b>	<b>86,2%</b>
1992	Williams	83,7%
<b>2016</b>	<b>Mercedes</b>	<b>83,2%</b>
<b>2020</b>	<b>Mercedes</b>	<b>82,9%</b>

<sup>I</sup> Consideration of the following dominant F1 eras: McLaren (1984-1991), Williams (1992-1997), Ferrari (1999-2008), Red Bull (2010-2013) and Mercedes (2014-2021)

Sources: adapted from FOM (2022d and 2022g)

**Table 9:** Top 5 teams with most pole positions during a single season (%)

<b>Year</b>	<b>Team</b>	<b>Pole positions</b>
<b>2016</b>	<b>Mercedes</b>	<b>95,2%</b>
<b>2014</b>	<b>Mercedes</b>	<b>94,7%</b>
<b>2015</b>	<b>Mercedes</b>	<b>94,7%</b>
1988	McLaren	93,8%
1992	Williams	93,8%

<sup>1</sup>Consideration of the following dominant F1 eras: McLaren (1984-1991), Williams (1992-1997), Ferrari (1999-2008), Red Bull (2010-2013) and Mercedes (2014-2021)

Sources: adapted from FOM (2022d and 2022g)

**Table 10:** Top 5 teams with most podiums during a single season (%)

<b>Year</b>	<b>Team</b>	<b>Podiums</b>
<b>2015</b>	<b>Mercedes</b>	<b>56,1%</b>
<b>2014</b>	<b>Mercedes</b>	<b>54,4%</b>
2004	Ferrari	53,7%
2002	Ferrari	52,9%
<b>2016</b>	<b>Mercedes</b>	<b>52,4%</b>

<sup>1</sup>Consideration of the following dominant F1 eras: McLaren (1984-1991), Williams (1992-1997), Ferrari (1999-2008), Red Bull (2010-2013) and Mercedes (2014-2021)

Sources: adapted from FOM (2022d and 2022g)

**Table 11:** Top 5 teams with most constructors' points gained during a single racing season (%)

<b>Year</b>	<b>Team</b>	<b>Constructor points</b>
2002	Ferrari	50,0%
1988	McLaren	49,8%
2007	Ferrari	45,8%
1996	Williams	42,1%
2001	Ferrari	40,5%

<sup>1</sup>Consideration of the following dominant F1 eras: McLaren (1984-1991), Williams (1992-1997), Ferrari (1999-2008), Red Bull (2010-2013) and Mercedes (2014-2021)

Sources: adapted from FOM (2022d and 2022g)

**Table 12:** Top 5 teams with highest point difference to 2<sup>nd</sup> constructors' place during a single season (%)

Year	Team	Point distance to 2 <sup>nd</sup> place
1988	McLaren	33,5%
2002	Ferrari	29,2%
1996	Williams	25,3%
1984	McLaren	22,4%
2004	Ferrari	20,3%

<sup>1</sup> Consideration of the following dominant F1 eras: McLaren (1984-1991), Williams (1992-1997), Ferrari (1999-2008), Red Bull (2010-2013) and Mercedes (2014-2021)

Sources: adapted from FOM (2022d and 2022g)

**Table 13:** Mercedes's most dominant years (2014-2016)

Year	Race wins	Laps led	Pole position	Podiums	Total constructions points	Point distance to 2 <sup>nd</sup> place
2014	84,2%	86,2%	94,7%	54,4%	34,7%	14,65%
2015	84,2%	81,5%	94,7%	56,1%	36,6%	14,33%
2016	90,5%	83,2%	95,2%	52,4%	36,1%	14,00%

<sup>1</sup> Percentual average of each category, because absolute values would be misleading as number of races, laps, points per place have changed over time

Sources: adapted from FOM (2022d and 2022g)

**Table 14:** Talent Programme drivers who raced in F1 since 2010

Red Bull	Ferrari	Mercedes
Alex Albon	Antonio Giovinazzi	Esteban Ocon
Carlos Sainz	Charles Leclerc	George Russel
Daniel Ricciardo	Guanyu Zhou	Pascal Wehrlein
Daniil Kvyat	Jules Bianchi	
Jaime Alguersuari	Lance Stroll	
Jean-Éric Vergne	Mick Schumacher	
Karun Chandhok	Sergio Perez	
Max Verstappen		
Pierre Gasly		
Sebastian Vettel		
Sebastian Buemi		
Yuki Tsunoda		

Sources: adapted from Ferrari (2022), Mercedes F1 (2022j) and Red Bull Racing (2022a)

**Table 15:** E-sports Constructors Standings by year

<b>Final place</b>	<b>2018</b>	<b>2019</b>	<b>2020</b>	<b>2021</b>	<b>Overall Points</b>
<b>1<sup>st</sup></b>	<b>Mercedes</b>	Red Bull	Red Bull	<b>Mercedes</b>	916 - Red Bull
<b>2<sup>nd</sup></b>	AlphaTauri	Ferrari	Alfa Romeo	Red Bull	<b>867 - Mercedes</b>
<b>3<sup>rd</sup></b>	Alfa Romeo	Alfa Romeo	Alpine	Aston Martin	584 - Alfa Romeo
<b>4<sup>th</sup></b>	McLaren	Alpine	<b>Mercedes</b>	Ferrari	454 - Alpine
<b>5<sup>th</sup></b>	Aston Martin	Williams	Ferrari	Alpine	412 - McLaren
<b>6<sup>th</sup></b>	Red Bull	McLaren	McLaren	McLaren	409 - Ferrari
<b>7<sup>th</sup></b>	Williams	Aston Martin	AlphaTauri	AlphaTauri	402 - Aston Martin
<b>8<sup>th</sup></b>	Haas	<b>Mercedes</b>	Williams	Williams	356 - Alpha Tauri
<b>9<sup>th</sup></b>	Alpine	AlphaTauri	Haas	Alfa Romeo	267 - Williams
<b>10<sup>th</sup></b>	-	Haas	Aston Martin	Haas	84 - Haas

<sup>1</sup>Ferrari did not participate in the 2018 e-sports championship

Sources: adapted from Simracing (2018-2021)

**Table 16:** Administrative expenses to revenue ratio

<b>Year</b>	<b>Revenue</b>	<b>Administrative expenses</b>	<b>Ratio</b>
<b>2010</b>	145	6	4,1%
<b>2011</b>	132	6	4,7%
<b>2012</b>	142	7	5,2%
<b>2013</b>	147	8	5,1%
<b>2014</b>	182	11	6,0%
<b>2015</b>	296	12	4,1%
<b>2016</b>	354	13	3,8%
<b>2017</b>	385	12	3,2%
<b>2018</b>	382	11	3,0%
<b>2019</b>	414	14	3,4%
<b>2020</b>	400	14	3,6%

Sources: adapted from Mercedes F1 (2011-2017, 2018a, 2019b, 2020b and 2021b)

**Table 17:** Partners and suppliers of the Mercedes team by level

<b>Partner Name</b>	<b>Industry</b>	<b>Origin</b>
<b>Title Partners</b>		
Petronas	Oil and gas	Malaysia
<b>Principle Partners</b>		
Ineos	Chemicals	United Kingdom
<b>Team Partners</b>		
UBS	Banking	Switzerland
TeamViewer	Software	Germany
CrowdStrike	Information security	United States of America
FTX	Cryptocurrency exchange	Bahamas
Akkodis	IT Consulting	Switzerland
Hewlett Packard Enterprise	Information technology	United States of America
IWC Schaffhausen	Watch manufacturing	Switzerland
The Ritz-Carlton	Hospitality	United States of America
AMD	Semiconductors and software technology	United States of America
Monster	Beverages	United States of America
Pure Storage	Data Storage	United States of America
Tommy Hilfiger	Fashion	United States of America
TIBCO	Software	United States of America
Belstaff	Fashion	United Kingdom
<b>Team Suppliers</b>		
Puma	Sport apparel	Germany
Police	Eyewear	Italy
OZ Racing	Automotive	Italy
Endless Brake Technology Europe AB	Automotive	Sweden/Japan
Axalta	Coatings	United States of America
Eight Sleep	Mattresses	United States of America
Pirelli	Automotive	Italy

Sources: adapted from Mercedes F1 (2022n)

**Table 18:** Examples of operating costs by type

Car related costs	Logistics costs	Costs for services
Development: - Raw materials - Factory equipment - Leases of flats and production sheds Production: - Operating factory - New machinery Maintenance: - Maintenance and repair of car and other operating assets - Spare parts	- Car transport services - Transport and lodging services for team - Team clothing - Other consumables	- Race car driver fees - F1 participation fees - Consultancy and professional services - Advertising services - Royalties for patents

Sources: adapted from Sylt (2020) and Gibson (2020)

**Table 19:** Overview of drivers' and staff's expenses

	2017	2018	2019	2020
Staff's expenses	€99.5m	€105.9m	€108.6m	€119.6m
Drivers' expenses	€43.9m	€49.9m	€59,8m	€79,7m
Total expenses	€143.4m	€155,8m	€168,4m	€199,3m
Headcount	912	968	1016	1063
∅ salary/employee	€157k	€161k	€166k	€187k
Salary-revenue ratio	37.3%	40.7%	40.6%	49.8%
Revenues	€384,9m	€382.4m	€414,4m	€399.6m

<sup>1</sup> Revenues of 2020 were impacted by Covid-19

Sources: adapted from Mercedes F1 (2017, 2018a, 2019b, 2020b and 2021b)

**Table 20:** Driver salary of top 5 teams and cost per point in 2021

Team	Driver 1	Driver 2	Total	Construction Points	Cost/Point
Mercedes	Lewis Hamilton \$62m	Valtteri Bottas \$10m	\$72m	613.5	\$0.12m
Red Bull	Max Verstappen \$42m	Sergio Perez \$18m	\$60m	585.5	\$0.10m
Ferrari	Charles Leclerc \$12m	Carlos Sainz \$8m	\$20m	323.5	\$0.06m
McLaren	Daniel Ricciardo \$10m	Lando Norris \$9m	\$19m	275	\$0.07m
Alpine	Fernando Alonso \$25m	Esteban Ocon \$5m	\$30m	155	\$0.19m

Sources: adapted from Knight (2021) and Spotrac (2022)

**Table 21:** Focus of Mercedes' charitable initiatives and examples

<b>Focus area</b>	<b>Example</b>
Official Team Charities (A charity that is supported each season after a team intern election process)	2017-2019 Cancer Research UK Amount of donations: 102.638£  2020-2021 Alzheimer's Research UK Amount of donations: Not published
Charities supported by Daimler AG and our Team Partners	Laureus Sport for Good Foundation  Since 2010, the Mercedes car drives with the Laureus logo and participate in events to create awareness and raise donations for Laureus
Charities supported by the FIA and FOM	WeRaceAsOne  As a team, Mercedes supports the #WeRaceAsOne initiative from the FOM to raise awareness for sustainability, diversity and inclusion as well as community related issues.
Local charities and organizations within employee catchment areas	- Annual community Firework Display - Donations for the Brackley Community - Carnival and Soapbox Festival - local initiatives, schools and community organizations
Others	Make a Wish Foundation The Starlight Foundation F1 in schools Formula Student Silverstone University Technical College British Motorsport Marshal Clubs

Sources: adapted from Mercedes F1 (2021a and 2022q)

**Table 22:** Mercedes's owned and supported initiatives promoting diversity and inclusion

<b>Name of initiative and type of support</b>	<b>Focus and Goal</b>
<b>Accelerate 25</b> Own programme	"A five-year programme to mark the formalisation of our vision to become a more diverse and inclusive team. We aim to continuously raise our standards of entry and until 2025, we aim for at least 25% of all new starters at our team to come from under-represented groups." Mercedes F1 (2022d, para. 1)
<b>Ignite</b> Own programme	"Charitable initiative to support greater diversity and inclusion in motorsport. Ignite will focus its work on increasing the pipeline of more diverse talent aiming to enter the motorsport industry – and igniting and inspiring enthusiasm for motorsport" Mercedes F1 (2021c, para 2.)
<b>She's Mercedes</b> Own programme	"She's Mercedes is a platform dedicated to inspiring, connecting and empowering women, highlighting their unique success and creating a dialogue that transcends cultures, industries and experiences" Daimler (2022e, para. 2)

<b>International Women in Engineering Day and Open Events</b> Partner	“INWED gives women engineers around the world a profile when they are still hugely underrepresented in their professions. As the only platform of its kind, it plays a vital role in encouraging more young women and girls to take up engineering careers.” (Women’s Engineering Society, (2022, para 1)
<b>FIA Girls on Track</b> Partner	“The FIA European Young Women Programme will contribute to the advancement of the FIA’s educational and social roles, and support its national sporting authorities (ASNs) with their motor sport growth as each strive to raise aware of gender equality and increase the participation of women in the sport.” FIA (2022h, para 2)
<b>Mulberry STEM Academy</b> Own programme with global partnership	“Building a credible programme that will offer greater opportunities for people from minority ethnic backgrounds to work in the motorsport industry, and to accompanying talent from education through to the opportunity to pursue careers in the sport. The Mulberry STEM Academy will give students access to inspirational role models, imaginative teaching and rich extra-curricular experiences over a five-year period.” Mercedes F1. (2022q, para 4.)

Sources: adapted from Daimler (2022e), FIA (2022h), Mercedes F1 (2021c, 2022d and 2022q) and Women’s Engineering Society (2022)

**Table 23:** Presence of CSR issues

<b>Team</b>	<b>Dedicated subpage of CSR and socio-educational topics on F1 team website</b>	<b>CSR Report at F1 team level</b>
Alfa Romeo	Yes	No
AlphaTauri	Yes	No
Alpine	No	No
Aston Martin	Yes	No
Ferrari	No	No
Haas	No	No
McLaren	Yes	Yes (Since 2020)
<b>Mercedes</b>	<b>Yes</b>	<b>Yes (Since 2021)</b>
Red Bull	No	No
Williams	Yes	No

Sources: adapted from AlphaTauri (2022), Aston Martin (2021), McLaren (2022a), Mercedes F1 (2022q), Sauber (2022) and Williams (2021)





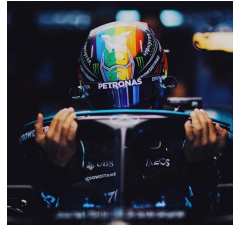

**Table 24: Environmental commitment by team**

<b>Team</b>	<b>Environmental strategy on F1 team website</b>	<b>Communication of environmental commitment</b> <b>(Detailed, moderate detailed, vague)</b>	<b>Environmental report and/or FIA environmental accreditation</b>
<b>Alfa Romeo</b>	YES	DETAILED	Both: NO
<b>AlphaTauri</b>	YES	MODERATE	Both: NO
<b>Alpine</b>	NO	-	Both: NO
<b>Aston Martin</b>	Yes	VAGUE	Both: NO
<b>Ferrari</b>	NO	-	Environmental report: NO FIA environmental accreditation: YES (Since 2021)
<b>Haas</b>	NO	-	-
<b>McLaren</b>	YES	DETAILED	Environmental report: YES (Since 2020) FIA environmental accreditation: YES (Since 2013)
<b>Mercedes</b>	YES	DETAILED	<b>Environmental report: YES (Since 2021)</b> <b>FIA environmental accreditation: (YES Since 2020)</b>
<b>Red Bull</b>	YES	DETAILED	Both: NO
<b>Williams</b>	YES	DETAILED	Both: YES (Since 2013)

<sup>1</sup> Comparison of F1 team sites (no consideration of parent company sites)

Sources: adapted from AlphaTauri (2022), Aston Martin (2021), FIA (2022g), McLaren (2022a), Mercedes F1 (2022q), Sauber (2022) and Williams (2021)

**Table 25:** Examples of Lewis Hamilton’s socio-educational activities

Location and Year	Purpose
Off-track during BLM protest in Hyde Park, London 2020	Support the Black Lives Matter movement 
Off-track participation in short film of conservation charity WWF UK 2020	Call for protection of Amazon rainforest 
On-track protest with other drivers during F1’s “We Race As One” campaign 2020-2021	Support of social and environmental issues including Black Lives Matter 
On-track protest during Azerbaijan Grand-Prix 2021	Generating attention for climate change 
On-track allyship with LGBTQ+ community during Qatar Grand-Prix 2021	Criticism of Qatar’s human rights records and support for global LGBTQ+ community 
Off-track charity event during the Miami race weekend 2022	Golf event to raise funds for social events 

Sources: adapted from Hamilton (2020a, 2020b, 2021a and 2021b), WWF (2020) and IWC (2022b)

**Table 26:** Social media presence by platform

Team	Instagram	Twitter	Facebook	TikTok	YouTube	Weibo
Alfa Romeo	1.9m	1.3m	693k	46k	115k	140k
AlphaTauri	2.4m	1.3m	1.3m	330k	281k	215k
Alpine	2.5m	1.9m	2.2m	168k	-*	67k
Aston Martin	2.5m	1.6m	1.2m	673k	115k	-*
Ferrari	9.4m	3.8m	4.8m	965k	-*	-*
Haas	2.3m	1.2m	495k	221k	88k	-
McLaren	9.6m	3.2m	3.9m	2m	920k	56k
<b>Mercedes</b>	<b>15.9m</b>	<b>4.1m</b>	<b>11.4m</b>	<b>2.7m</b>	<b>976k</b>	<b>159k</b>
Red Bull	8.6m	3.9m	10.8m	1.8m	1.32m	-*
Williams	2.2m	1.6m	982k	148k	186k	-

<sup>I</sup> Comparison of F1 team sites (no consideration of parent company sites)

<sup>II</sup> Parent company site available

Sources: adapted from team's social media accounts (27.062022)

**Table 27:** Team performance measures

<b>A TEAM PERFORMANCE</b>			
	<b>MEASURES</b>	<b>SOURCE</b>	<b>EXPLANATION</b>
<b>A1</b>	Team construction results obtained in F1 competition (last 3 years)	Sutton et. al (1997) Wann (2006) Ballouli et. al (2016)	A team's performance increases identification with the team, as fans hope that the positive association will reflect on them. In addition, some fans avoid being associated with a particular team when performance drops. In the F1, context, one should distinguish between team performance and the individual driver performance with a team.
<b>A2</b>	Team's fastest lap award obtained in F1 competition (last 3 years)		
<b>A3</b>	Driver's championship results obtained in F1 competition (last 3 years)		
<b>A4</b>	Drivers' pole position results obtained in F1 competition (last 3 years)		
<b>A5</b>	Better sports results than historical competitors (last 3 years)	Ashforth and Mael (1989) Wann and Branscombe (1995)	Sports fans try to distinguish themselves from supporters of rival teams to become part of something special or unique.
<b>A6</b>	Team sport results of the past (more than 3 year ago)	Delia and James (2018)	Although elements from the past cannot be altered, they are very important for the fans' identification with a team. This is especially true for past successes.
<b>A7</b>	Fair play shown by the team (last 3 years)	Gennari (2021)	Next to the pure sporting results (A1-A6), other performance characteristics of the teams have proven to be essential for the identification of sports fans.
<b>A8</b>	Team spirit shown by the team (last 3 years)		

Sources: adapted from Gennari (2021)

**Table 28:** Individual characteristic measures

<b>B CHARACTERISTICS OF DRIVERS, TEAM PRINCIPALS AND OTHER MEMBERS</b>			
	<b>MEASURES</b>	<b>SOURCE</b>	<b>EXPLANATION</b>
<b>B1</b>	Team driver's attractiveness/fame	Fisher (1998)	Two individual characteristics have received notable consideration impacting team identification: Player attractiveness and player similarity to the fan. These attributes will be also extended to the team principal, as he or she holds a prominent position to represent a F1 team.
<b>B2</b>	Team driver's similarity with fans	Fisher and	
<b>B3</b>	Team principal's attractiveness/fame	Wakefield (1998)	
<b>B4</b>	Team principal's similarity with fans	Ashforth and Mael (1989)	
<b>B5</b>	Former drivers, team principal and/or other team members	Delia and James (2018)	Players and coaches are a crucial source of team identification. In a F1 context, one should not only consider former drivers, but also popular team principals and other team members (e.g., engineers and mechanics) of the past.
<b>B6</b>	Players' and staff's off-track behaviors	Fink et. al (2009)	Off-field actions by athletes can have an impact on team identification, especially among strongly identified supporters. In the F1 context, this concept should be extended to team principals as well as mechanics and engineers.
<b>B7</b>	Driving skills of driver	Wann et. al (1996)	Despite the lack of sporting success, drivers' ability and skills are important for the team identification.
<b>B8</b>	Driver's and team principal's live event and (social) media appearance	Chung and Hwang (2015)	As F1 spectators' parasocial interaction has a significant impact on their level of F1 fanhood, this concept should be extended to team identification. Thus, drivers and team principals' appearance at live events and on social media could have an impact on team identification.

Sources: adapted from Gennari (2021)

**Table 29: Managerial and organizational measures**

<b>C MANAGERIAL ASPECTS AND ORGANIZATIONAL CHARACTERISTICS</b>			
	<b>MEASURES</b>	<b>SOURCE</b>	<b>EXPLANATION</b>
<b>C1</b>	Team's history and tradition	Sutton et. al (1997) Wann (2006) Wang and Tang (2018)	Sport organizations may be able to boost team identification by reminding fans of the team's rich and distinctive traditions. Indeed, a team's history can have positive effect on team identification, but at the same time.
<b>C2</b>	Team's country of origin	Hunt et al. (1999) Wann et al. (1996) Heere and James (2007) Heere et. al (2011)	Some fans demonstrate their team commitment, especially because of the identification with a geographic region. Hence, a F1 team's origin (city and/or country) can be a source and strong influence of team identification.
<b>C3</b>	Ownership image	Sutton et. al (1997)	The team owner's image and the managerial decision-making are crucial organizational factors that influence team identification.
<b>C4</b>	Team's managerial decisions		
<b>C5</b>	Team's sponsors and partners	Pope & Voges (2000) Meenaghan (2001)	The sponsor's image may impact the team identification of a particular fan. It makes sense to expand this concept to external partners of F1 teams.
<b>C6</b>	Team's social, environmental and educational activities	Jung (2012) Lock and Filo (2012) Chang and Kwak (2021)	When a team devotes more resources and time to environmentally and socially responsible projects, fans are more likely to respond positively. This is especially true for CSR activities. Conversely, the perception that a sport team is taking away instead of giving can even lead to disidentification.
<b>C7</b>	Team's relationship with and integration of its own community	Sutton et. al (1997)	Community affiliation is one of the strongest predictors of team identification. Strong community relations, transparency and integration in decision-making demonstrate a high level of organizational integrity. This, together with the articulation of common symbols and shared goals, creates an identity of a team that is inseparable from that of the community.
<b>C8</b>	Team's traditional and social media exposure	Sutton et. al (1997) Chung and Hwang (2015) Collins et. al (2016)	While participation in the actual events increases involvement, media presence can also promote team identification. In Formula 1, this is not only about the traditional media, but in particular about the presence and appearance in the social media.

<b>C9</b>	Team's existing fan base and attractiveness	Sutton et. al (1997)	Fans identify with a team in order to gain prestige in the eyes of existing socially desirable fan base in order to ultimately increase their personal sense of worth.
<b>C10</b>	Team's car appearance and sound	Ballouli et. al (2016)	According to Ballouli et. al (2016), car specificities (e.g., new engines, new look of the car, sound of the engines) do not have a huge impact on the future support of F1 sport compared to track aesthetics and car technology. Nevertheless, it might be interesting whether the appearance and design of the team car has an impact on team identification.
<b>C11</b>	Drivers of talent program	OWN IDEA	The results and development of talent program drivers in other teams can have an indirect influence on the identification with one's own F1 team.
<b>C12</b>	E-sports team	Gennari (2021) Dwyer (2011)	Although E-sports is not a relevant factor influencing team identification in a football context, this can still apply to F1 because E-sports is clearly more present and promoted in this sport. In an NFL context, it has been proven that there is a relationship between the digital fan involvement – playing NFL Fantasy Football – and the team loyalty.

Sources: adapted from Gennari (2021)

**Table 30:** Formula 1: Drive-to-Survive measures

<b>D FORMULA 1: DRIVE-TO-SURVIVE RELATED ASPECTS</b>			
	<b>MEASURES</b>	<b>SOURCE</b>	<b>EXPLANATION</b>
<b>D1</b>	Have you seen the Netflix series "Formula 1: Drive-To-Survive"?	OWN IDEA	This questions simply distinguishes between fans that have or have not seen the Netflix series. All of the following measures (D2-D8) are contingent on a "Yes" to this question.
<b>D2</b>	Have you been a fan of a F1 team or a general F1 fan before the Netflix series "Formula 1: Drive-To-Survive"?	OWN IDEA	The question serves the purpose of distinguishing long-time fans from newly acquired fans through the Netflix series in order to better segment the following asked aspects.
<b>D3</b>	Has the Netflix series "Formula 1: Drive-To-Survive" increased your team identification with your favourite F1 team?	OWN IDEA	This question examines the importance of the Netflix series for one's team identification.
<b>D4</b>	The frequency of the team appearance	OWN IDEA	Because the Netflix series covers the entire F1 racing series, the frequency of visibility of one's favourite team might be of important significance to one's team identification with that particular team.
<b>D5</b>	The excitement and tension of the team clips	OWN IDEA	Not only the theming of one's favourite team might have an effect on team identification, but also the way the team is visually represented. Are the scenes dramatic, exciting and thrilling for the fan?
<b>D6</b>	Interviews with the main actors (e.g., drivers or team principals)	OWN IDEA	In addition to visual recordings, interviews with teams' main actors in might influence the own team identification. Quality, frequency and length certainly play a role here.
<b>D7</b>	New, previously unknown information about the team, e.g., behind-the-scenes insights	OWN IDEA	Newly gained information from the episodes can positively or negatively influence one's own team identification. The so-called "Behind-the-scenes insights" make a team's internal processes even more tangible for their fans.
<b>D8</b>	The accuracy of the information shown	OWN IDEA	Due to the distorted and sometimes incorrect representation of actions in some episodes, a

			biased image of team identification can arise. Hence, how important is the accuracy of information shown for one's own team identification?
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Sources: adapted from Gennari (2021)

**Table 31:** Detailed overview of questionnaire

<b>PART 1</b>		
<b>Introduction Part</b>	<p>Hi, I'm Eric, a master student at Bocconi University. For my thesis, I am conducting an <b>analysis on Formula 1 fans</b>. The purpose of this survey is to <b>identify the most or least important factors for team identification which can be influenced by the team itself</b>.</p> <p>Therefore, I kindly ask you to fill out this short questionnaire to support my research. It will only take <b>5-10 minutes</b>.</p> <p>All data will be treated according to the current EU data privacy laws.</p>	
TOPIC	QUESTION	TYPE OF ANSWER
Favourite F1 team question	What Formula 1 team do you support? - Max 1 choice	Multiple choice
<b>PART 2</b>		
<b>Team identification definition</b>	<p>In the next questions you will be asked to rate the importance of certain elements to your team identification with a Formula 1 team.</p> <p>Remember that <b>team identification</b> is defined as "the extent to which <b>individuals</b> perceive themselves as <b>fans of the team</b>, are <b>involved with the team</b>, are concerned with the <b>team's performance</b>, and view the team as a <b>representation of themselves</b>" (Branscombe and Wann, 1992, p.1017).</p>	
TOPIC	QUESTION	TYPE OF ANSWER
<b>Team-related driver questions</b>		
Team Performance (A1-A8)	Indicate how important the following aspects are to identify yourself with your favourite F1 team.	Scale from 1 (not important at all) to 5 (extremely important)
Characteristics of Drivers, Team Principals and other Members (B1-B8)		

Managerial Aspects and Organizational Characteristics (C1-C12)		
<b>PART 3</b>		
<b>TOPIC</b>	<b>QUESTION</b>	<b>TYPE OF ANSWER</b>
Netflix Drive-To-Survive question	Have you seen the Netflix series "Formula 1: Drive-To-Survive"?	Yes or No
Follow-up questions (conditional on "Yes" in Netflix Drive-To-Survive question)	Have you been a fan of a F1 team or a general F1 fan before the Netflix series "Formula 1: Drive-To-Survive"?	Yes or No
	Has the Netflix series "Formula 1: Drive-To-Survive" increased your team identification with your favourite F1 team?	Scale from 1 "Definitely true" to 5 "Definitely false"
	Indicate how important the following aspects (D4-D8) of the Netflix series "Formula 1: Drive-To-Survive" are to identify yourself with your favourite F1 team	Scale from 1 (not important at all) to 5 (extremely important)
<b>PART 4</b>		
<b>TOPIC</b>	<b>QUESTION</b>	<b>TYPE OF ANSWER AND EXPLANATION</b>
F1 race attendance question	Have you ever attended an F1 race where your favourite team has raced?	Yes or No  The fact that fans make a considerable investment of time and economic effort to see their favourite F1 team shows a high level of team identification and can therefore serve as a possible segmentation variable (Wann and Branscombe, 1993)
Influence of social agents question	Have you become a fan of your team primarily because of a parent, family member or friend?	Yes or No  Social agent (e.g., parents, family members, friends) influence the team identification with one's favourite team, especially in its formation. (James, 2001; Wann, Tacker and Schrader, 1996)

Influence of driver question	Have you become a fan of your team primarily because of a particular driver?	Yes or No  Motor sport enthusiast have an affinity to follow only their favourite racer rather than an entire team (Chung and Hwang, 2015)
<b>PART 5</b>		
<b>TOPIC</b>	<b>QUESTION</b>	<b>TYPE OF ANSWER</b>
Gender	What is your gender?	Multiple choice
Age	How old are you?	
Employment	What best describes your employment status over the last three months?	
Nationality	What is your country of origin?	

Sources: adapted from Gennari (2021)

**Table 32:** Gender distribution

Gender	Number	%
Men	124	85%
Women	22	15%
Others	0	0%

Sources: Author's own work

**Table 33:** Age distribution

Age	Number	%
< 17	0	0%
18-24	59	40%
25-34	74	51%
35-44	4	3%
45-54	3	2%
55-65	6	4%
> 65	0	0%

Sources: Author's own work

**Table 34: Country of residence distribution**

Residence	Number	%
Austria	9	6%
Brazil	1	1%
France	6	4%
Germany	77	53%
Guatemala	6	4%
Italy	33	23%
Netherlands	7	5%
Norway	1	1%
Portugal	4	3%
United Kingdom	4	3%
United States of America	3	2%

Sources: Author's own work

**Table 35: Favourite team distribution**

Favourite team	Number	%
Alfa Romeo	0	0%
AlphaTauri	0	0%
Alpine	3	2%
Aston Martin	2	1%
Ferrari	45	31%
Haas	4	3%
McLaren	8	5%
Mercedes	23	16%
Red Bull	27	18%
Williams	1	1%
Non in particular	33	23%
No F1 fan at all	12	-

Sources: Author's own work

**Table 36: Employment distribution**

Employment status	Number	%
High school	2	1%
Undergraduate Student	19	13%
Graduate Student	61	42%
PhD/MBA student	2	1%
Working part-time	7	5%
Working full-time	55	38%

Sources: Author's own work

**Table 37:** Characteristics of fans

<b>Fan characteristics</b>	<b>Number</b>	<b>%</b>	<b>Number (Mercedes Fans)</b>	<b>% (Mercedes Fans)</b>
F1 race attended	35	24%	4	17%
Fan of a team primarily because of a parent, family member or friend	50	34%	8	35%
Fan of a team primarily because of a particular driver	89	61%	15	65%

Sources: Author's own work

**Table 38:** Average importance of each driver

	<b>Driver Category</b>	<b>Average</b>	<b>Average Mercedes Fans</b>	<b>Difference</b>
<b>A</b>	<b>Overall Team Performance</b>	<b>3.60</b>	<b>3.69</b>	<b>0.15</b>
<b>A1</b>	Team construction results obtained in F1 competition	3.67	3.91	0.24
<b>A2</b>	Team's fastest lap award obtained in F1 competition	2.57	2.48	-0.09
<b>A3</b>	Driver's championship results obtained in F1 competition	4.16	4.57	0.40
<b>A4</b>	Drivers' pole position results obtained in F1 competition	3.32	3.26	-0.05
<b>A5</b>	Better sports results than historical competitors	3.31	3.61	0.30
<b>A6</b>	Team sport results of the past	3.54	3.70	0.15
<b>A7</b>	Fair play shown by the team	3.70	3.87	0.17
<b>A8</b>	Team spirit shown by the team	4.07	4.13	0.06
<b>B</b>	<b>Overall characteristics of drivers, team principals and other members</b>	<b>3.54</b>	<b>3.56</b>	<b>0.03</b>
<b>B1</b>	Team driver's attractiveness/fame	3.75	3.70	-0.05
<b>B2</b>	Team driver's similarity with fans	3.27	3.48	0.21
<b>B3</b>	Team principal's attractiveness/fame	3.30	3.43	0.13
<b>B4</b>	Team principal's similarity with fans	2.81	2.96	0.15
<b>B5</b>	Former drivers, team principals and/or other team members	3.70	3.52	-0.18
<b>B6</b>	Players' and staff's off-track behaviours	3.90	3.87	-0.03
<b>B7</b>	Driving skills of driver	4.37	4.39	0.02
<b>B8</b>	Driver's and team principal's live event and (social) media appearance	3.22	3.13	-0.09
<b>C</b>	<b>Overall managerial aspects and organizational characteristics</b>	<b>3.31</b>	<b>3.28</b>	<b>-0.03</b>
<b>C1</b>	Team's history and tradition	3.95	4.04	0.10
<b>C2</b>	Team's country of origin	3.51	3.96	0.44
<b>C3</b>	Ownership image	3.49	3.74	0.25
<b>C4</b>	Team's managerial decisions	3.70	3.87	0.17
<b>C5</b>	Team's sponsors and partners	3.13	2.91	-0.22
<b>C6</b>	Team's social, environmental and educational activities	3.39	3.48	0.09
<b>C7</b>	Team's relationship with and integration of its own community	3.38	3.26	-0.12
<b>C8</b>	Team's traditional and social media exposure	3.39	3.26	-0.13
<b>C9</b>	Team's existing fan base and attractiveness	3.39	3.04	-0.35
<b>C10</b>	Team's car appearance and sound	3.73	3.39	-0.33
<b>C11</b>	Drivers of talent program	3.00	2.70	-0.30
<b>C12</b>	E-sports team	1.64	1.70	0.06

Sources: Author's own work

**Table 39:** Average importance of each Drive-To-Survive-related driver

<b>Driver Category</b>		<b>Average</b>	<b>Average Mercedes Fans</b>	<b>Difference</b>
<b>D</b>	<b>Formula 1: Drive-To-Survive related aspects</b>	<b>3.87</b>	<b>3.89</b>	<b>0.02</b>
<b>D1</b>	The frequency of the team appearance	3.38	3.39	0.01
<b>D2</b>	The excitement and tension of the team clips	3.77	3.89	0.11
<b>D3</b>	Interviews with the main actors (e.g., drivers or team principals)	4.11	4.28	0.17
<b>D4</b>	New, previously unknown information about the team	4.20	4.28	0.08
<b>D5</b>	The accuracy of the information shown	3.88	3.61	-0.27

Sources: Author's own work

**Table 40:** Average importance of each driver by 4-O model categories

4-O Model Category		Average	Average Mercedes Fans	Difference
<b>Sporting Outcomes</b>		<b>3.49</b>	<b>3.58</b>	<b>0.09</b>
<b>A1</b>	Team construction results obtained in F1 competition	3.67	3.91	0.24
<b>A2</b>	Team's fastest lap award obtained in F1 competition	2.57	2.48	-0.09
<b>A3</b>	Driver's championship results obtained in F1 competition	4.16	4.57	0.40
<b>A4</b>	Drivers' pole position results obtained in F1 competition	3.32	3.26	-0.05
<b>A5</b>	Better sports results than historical competitors	3.31	3.61	0.30
<b>A6</b>	Team sport results of the past	3.54	3.70	0.15
<b>B7</b>	Driving skills of driver	4.37	4.39	0.02
<b>C11</b>	Drivers of talent program	3.00	2.70	-0.30
<b>Financial Outcomes</b>		<b>3.44</b>	<b>3.51</b>	<b>0.07</b>
<b>C3</b>	Ownership image	3.49	3.74	0.25
<b>C4</b>	Team's managerial decisions	3.70	3.87	0.17
<b>C5</b>	Team's sponsors and partners	3.13	2.91	-0.22
<b>Social Outcomes</b>		<b>3.25</b>	<b>3.16</b>	<b>-0.09</b>
<b>B5</b>	Former drivers, team principals and/or other team members	3.70	3.52	-0.18
<b>B6</b>	Players' and staff's off-track behaviours	3.90	3.87	-0.03
<b>B8</b>	Driver's and team principal's live event and (social) media appearance	3.22	3.13	-0.09
<b>C6</b>	Team's social, environmental and educational activities	3.39	3.48	0.09
<b>C7</b>	Team's relationship with and integration of its own community	3.38	3.26	-0.12
<b>C8</b>	Team's traditional and social media exposure	3.39	3.26	-0.13
<b>C9</b>	Team's existing fan base and attractiveness	3.39	3.04	-0.35
<b>C12</b>	E-sports team	1.64	1.70	0.06
<b>Educational outcomes</b>		<b>3.62</b>	<b>3.64</b>	<b>0.02</b>
<b>A7</b>	Fair play shown by the team	3.70	3.87	0.17
<b>A8</b>	Team spirit shown by the team	4.07	4.13	0.06
<b>C1</b>	Team's history and tradition	3.95	4.04	0.10
<b>C6</b>	Team's social, environmental and educational activities	3.39	3.48	0.09
<b>C11</b>	Drivers of talent program	3.00	2.70	-0.30

Sources: Author's own work

**Table 41:** Average importance of each driver by F1 race attended

<b>Driver Category</b>		<b>Average of fan attending F1 race</b>	<b>Difference to regular fans</b>
<b>A</b>	<b>Overall Team Performance</b>	<b>3.63</b>	<b>0.03</b>
<b>A1</b>	Team construction results obtained in F1 competition	3.94	0.27
<b>A2</b>	Team's fastest lap award obtained in F1 competition	2.63	0.06
<b>A3</b>	Driver's championship results obtained in F1 competition	4.20	0.04
<b>A4</b>	Drivers' pole position results obtained in F1 competition	3.43	0.11
<b>A5</b>	Better sports results than historical competitors	3.29	-0.02
<b>A6</b>	Team sport results of the past	3.69	0.14
<b>A7</b>	Fair play shown by the team	3.60	-0.10
<b>A8</b>	Team spirit shown by the team	4.23	0.16
<b>B</b>	<b>Overall characteristics of drivers, team principals and other members</b>	<b>3.63</b>	<b>0.09</b>
<b>B1</b>	Team driver's attractiveness/fame	3.66	-0.09
<b>B2</b>	Team driver's similarity with fans	3.31	0.05
<b>B3</b>	Team principal's attractiveness/fame	3.34	0.04
<b>B4</b>	Team principal's similarity with fans	2.94	0.13
<b>B5</b>	Former drivers, team principals and/or other team members	3.89	0.19
<b>B6</b>	Players' and staff's off-track behaviours	3.94	0.04
<b>B7</b>	Driving skills of driver	4.63	0.26
<b>B8</b>	Driver's and team principal's live event and (social) media appearance	3.31	0.10
<b>C</b>	<b>Overall managerial aspects and organizational characteristics</b>	<b>3.45</b>	<b>0.14</b>
<b>C1</b>	Team's history and tradition	4.20	0.25
<b>C2</b>	Team's country of origin	3.43	-0.09
<b>C3</b>	Ownership image	3.74	0.26
<b>C4</b>	Team's managerial decisions	3.83	0.13
<b>C5</b>	Team's sponsors and partners	3.26	0.13
<b>C6</b>	Team's social, environmental and educational activities	3.40	0.01
<b>C7</b>	Team's relationship with and integration of its own community	3.43	0.05
<b>C8</b>	Team's traditional and social media exposure	3.49	0.10
<b>C9</b>	Team's existing fan base and attractiveness	3.54	0.15
<b>C10</b>	Team's car appearance and sound	3.77	0.05
<b>C11</b>	Drivers of talent program	3.46	0.46
<b>C12</b>	E-sports team	1.89	0.25

Sources: Author's own work

**Table 42:** Average importance of each driver by influence of social agents

	<b>Driver Category</b>	<b>Average of fans who become fan because of others</b>	<b>Difference to regular fans</b>
<b>A</b>	<b>Overall Team Performance</b>	<b>3.60</b>	<b>0.01</b>
<b>A1</b>	Team construction results obtained in F1 competition	3.69	0.02
<b>A2</b>	Team's fastest lap award obtained in F1 competition	2.61	0.04
<b>A3</b>	Driver's championship results obtained in F1 competition	4.10	-0.07
<b>A4</b>	Drivers' pole position results obtained in F1 competition	3.25	-0.06
<b>A5</b>	Better sports results than historical competitors	3.47	0.16
<b>A6</b>	Team sport results of the past	3.88	0.34
<b>A7</b>	Fair play shown by the team	3.63	-0.07
<b>A8</b>	Team spirit shown by the team	4.18	0.11
<b>B</b>	<b>Overall characteristics of drivers, team principals and other members</b>	<b>3.56</b>	<b>0.02</b>
<b>B1</b>	Team driver's attractiveness/fame	3.88	0.14
<b>B2</b>	Team driver's similarity with fans	3.29	0.03
<b>B3</b>	Team principal's attractiveness/fame	3.37	0.07
<b>B4</b>	Team principal's similarity with fans	2.94	0.13
<b>B5</b>	Former drivers, team principals and/or other team members	3.90	0.20
<b>B6</b>	Players' and staff's off-track behaviours	3.78	-0.12
<b>B7</b>	Driving skills of driver	4.33	-0.04
<b>B8</b>	Driver's and team principal's live event and (social) media appearance	3.00	-0.22
<b>C</b>	<b>Overall managerial aspects and organizational characteristics</b>	<b>3.38</b>	<b>0.07</b>
<b>C1</b>	Team's history and tradition	4.16	0.21
<b>C2</b>	Team's country of origin	3.80	0.29
<b>C3</b>	Ownership image	3.63	0.14
<b>C4</b>	Team's managerial decisions	3.65	-0.05
<b>C5</b>	Team's sponsors and partners	2.84	-0.29
<b>C6</b>	Team's social, environmental and educational activities	3.27	-0.12
<b>C7</b>	Team's relationship with and integration of its own community	3.49	0.11
<b>C8</b>	Team's traditional and social media exposure	3.43	0.04
<b>C9</b>	Team's existing fan base and attractiveness	3.63	0.24
<b>C10</b>	Team's car appearance and sound	3.73	0.00
<b>C11</b>	Drivers of talent program	3.22	0.22
<b>C12</b>	E-sports team	1.73	0.09

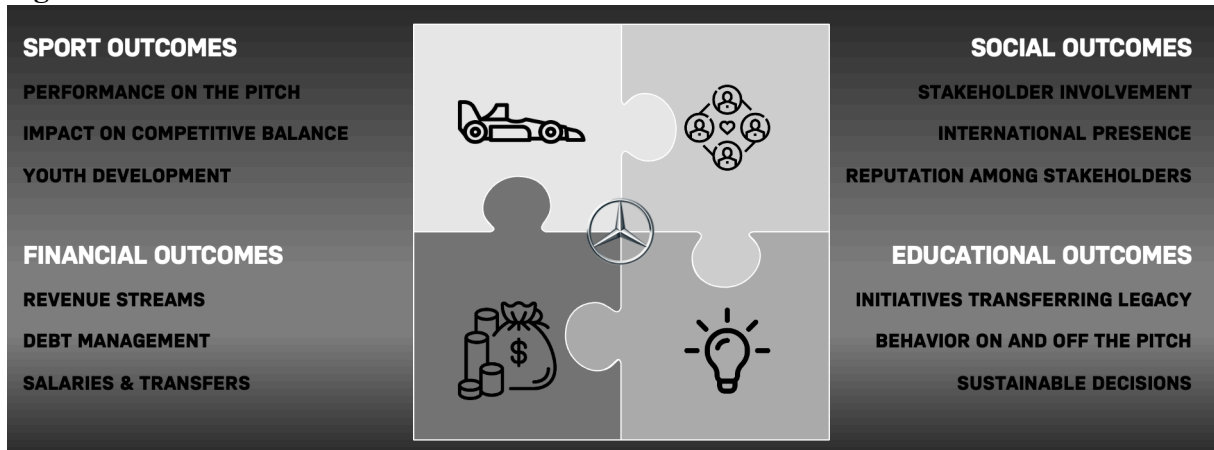
Sources: Author's own work

**Table 43:** Overview of 4-O model outcomes since 2010

<b>Sport outcomes</b>	<b>Financial outcomes</b>	<b>Educational outcomes</b>	<b>Social outcomes</b>
8x F1 Constructor World Champion	Revenue growth of 173%	“Our Positive Footprint” initiatives (Charity work)	More than 20 global partnerships with diverse organizations
7x F1 Driver World Champion	Profitability since 2017	“Driving change” initiatives (Diversity engagement)	Most followed F1 team on social media accounts: +25m followers
3 F1 drivers from Junior Programme	\$231m equity increase since 2015	“Countdown to Zero” (Sustainability commitment)	4 <sup>th</sup> most popular team according to official F1 survey
2x E-Sports Constructor and Driver World Champion	Second highest F1 brand value in 2018: \$860m \$0.12m driver cost per points in 2021 season	Lewis Hamilton’s foundations	Global “#DrivenByEachOther” fan strategy with additional focus on e-sports

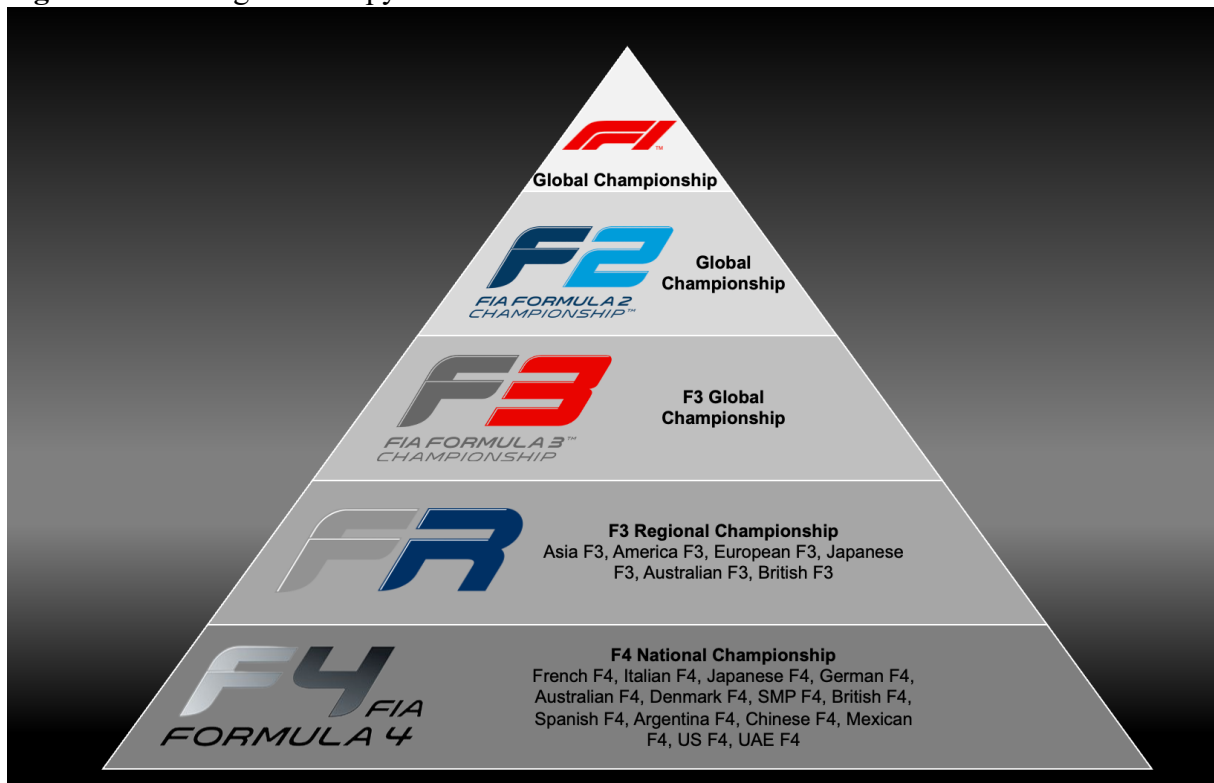
Sources: Author’s own work

**Figure 1: Overview of the 4-0 Model**



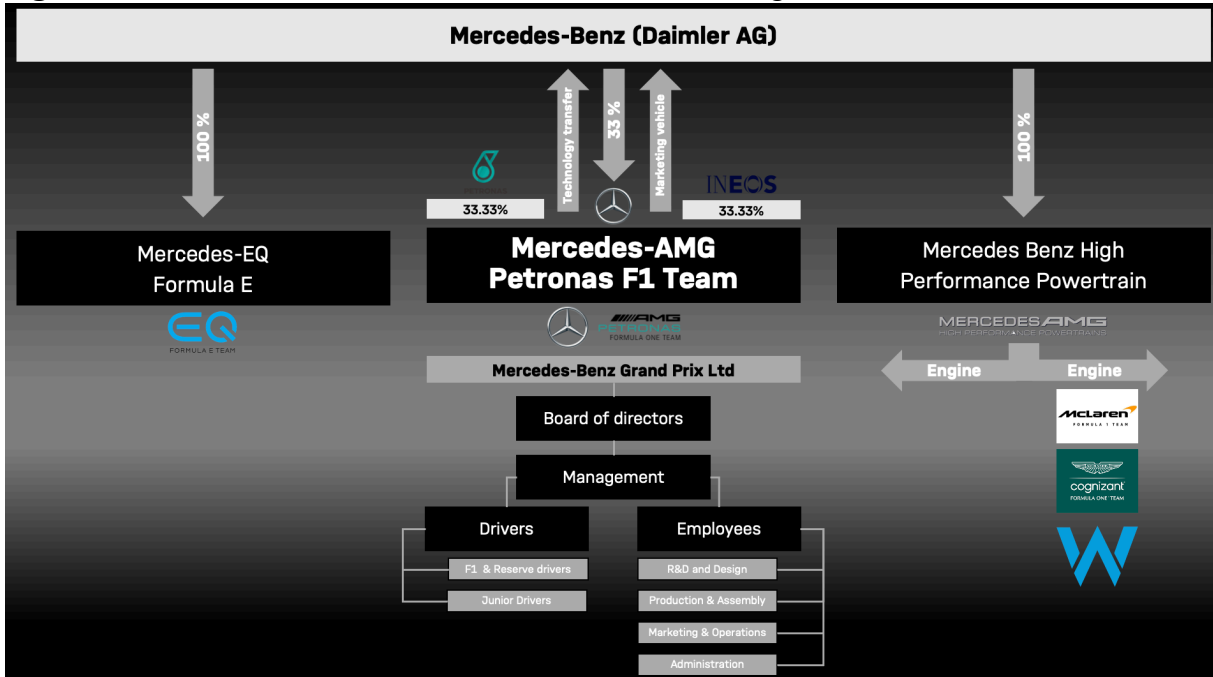
Sources: adapted from Ruta (2022)

**Figure 2: FIA single-seater pyramid**



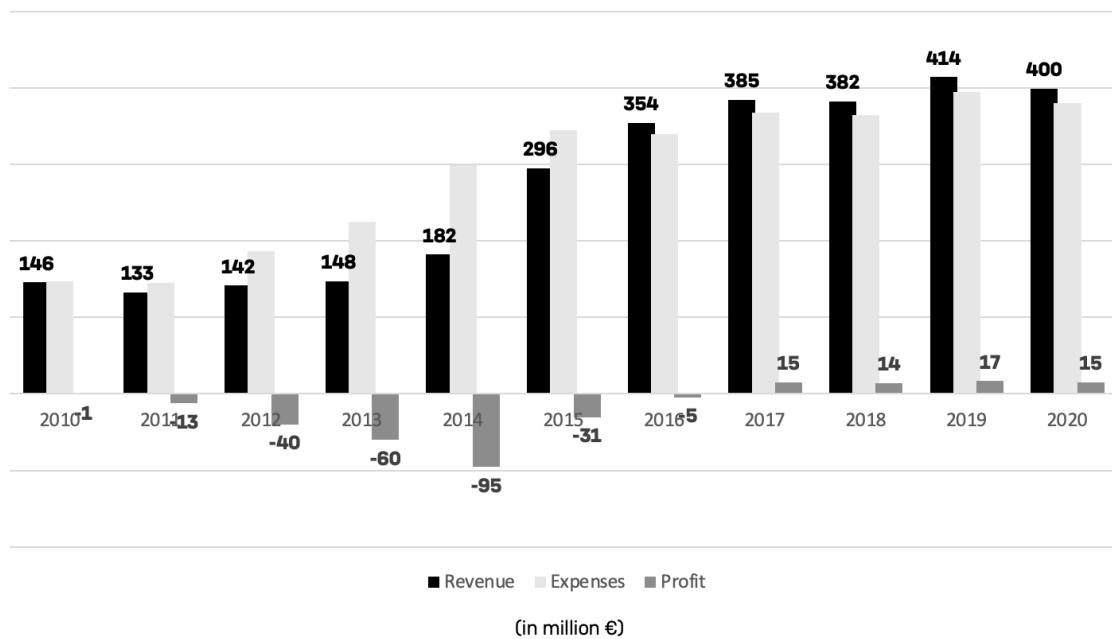
Sources: Author's own work

**Figure 3: The Mercedes-AMG Petronas F1 Team and its organizational structure**



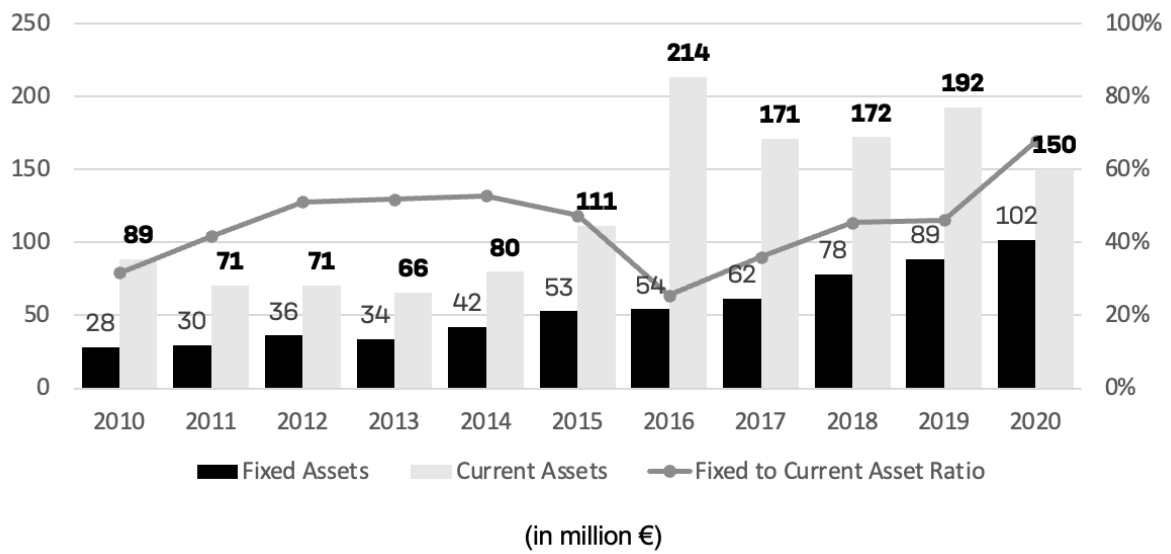
Sources: Author's own work

**Figure 4: Overview of financial performance between 2010 - 2020**



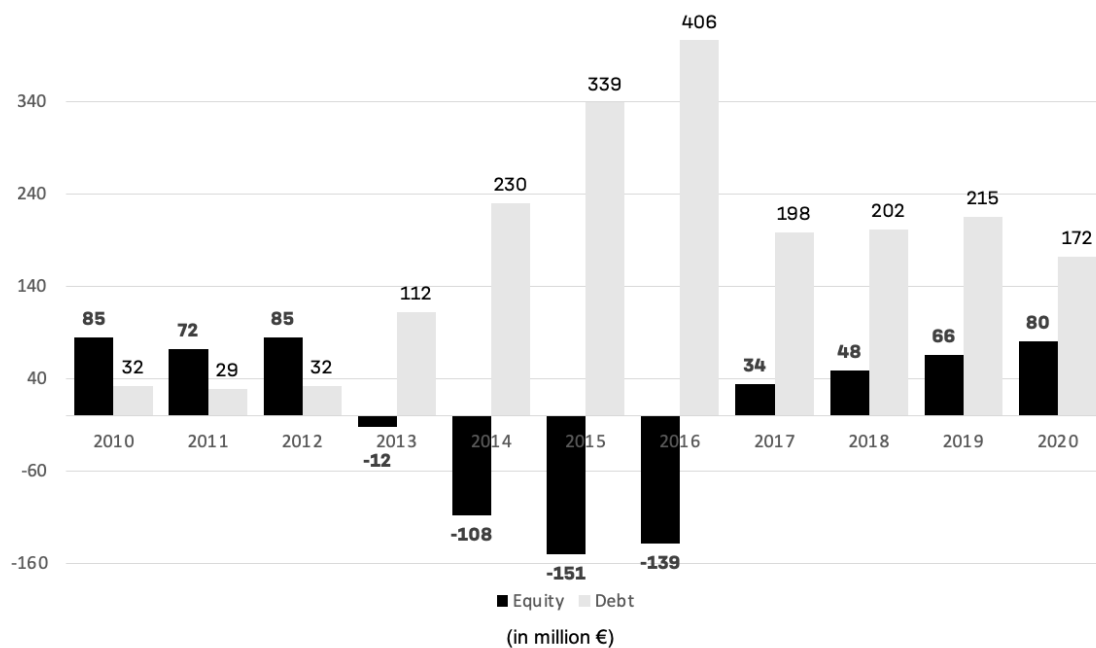
Sources: Author's own work

**Figure 5: Development of asset structure**



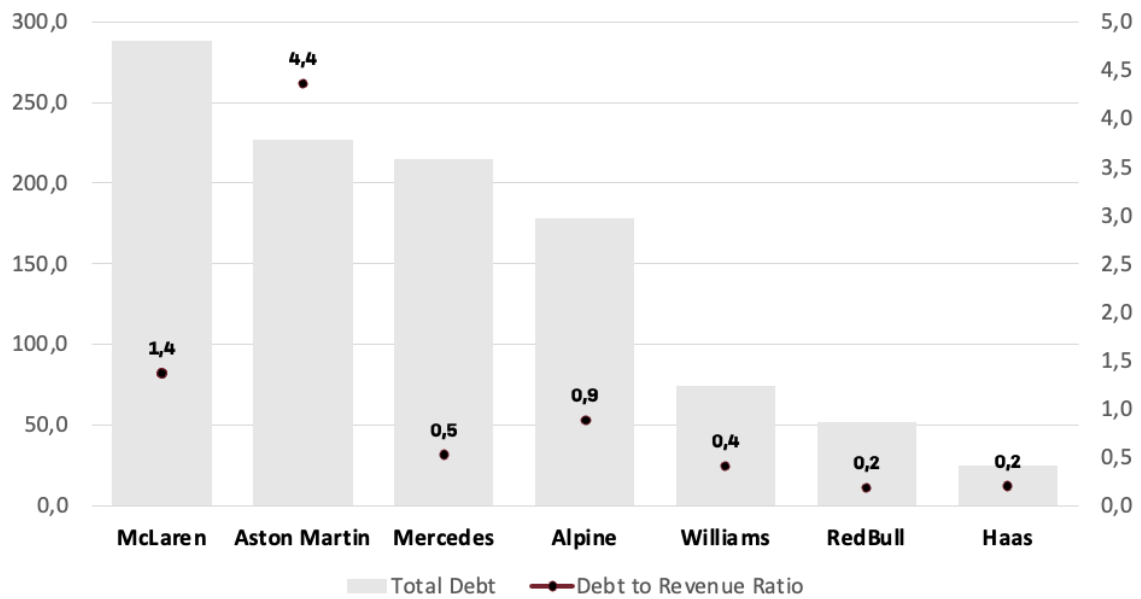
Sources: Author's own work

**Figure 6: Development of financing structure**



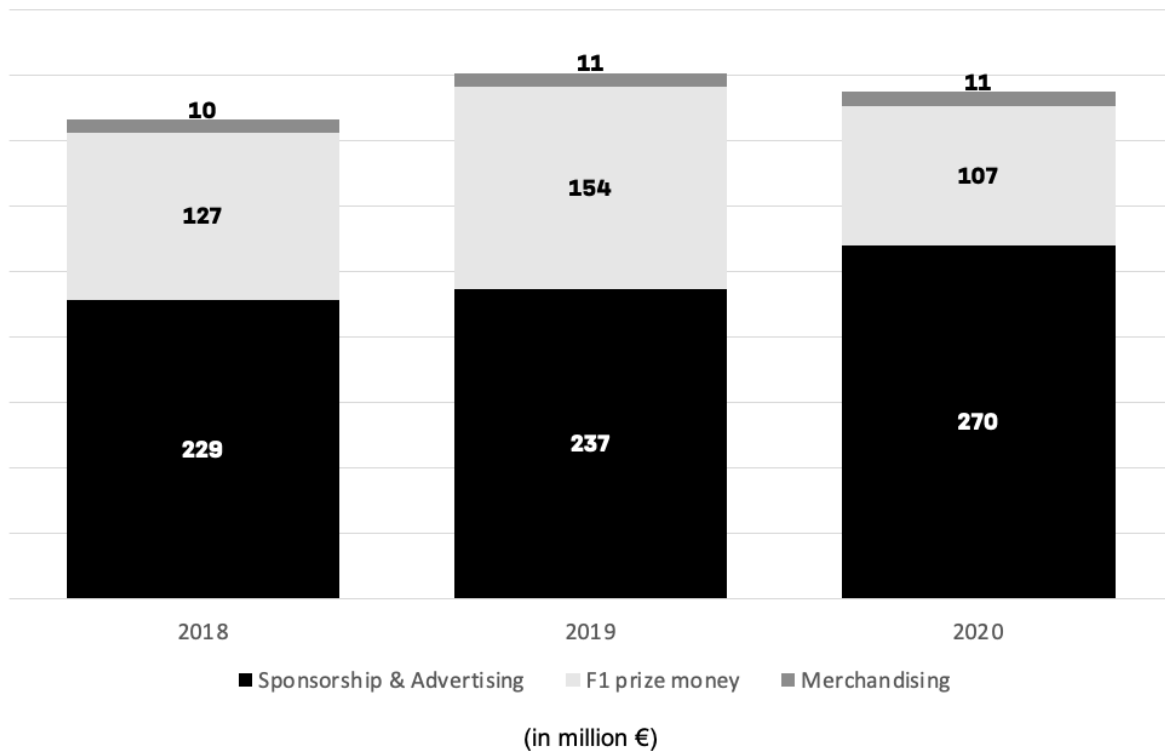
Sources: Author's own work

**Figure 7:** Industry comparison of used debt and debt to revenue ratio (2019)



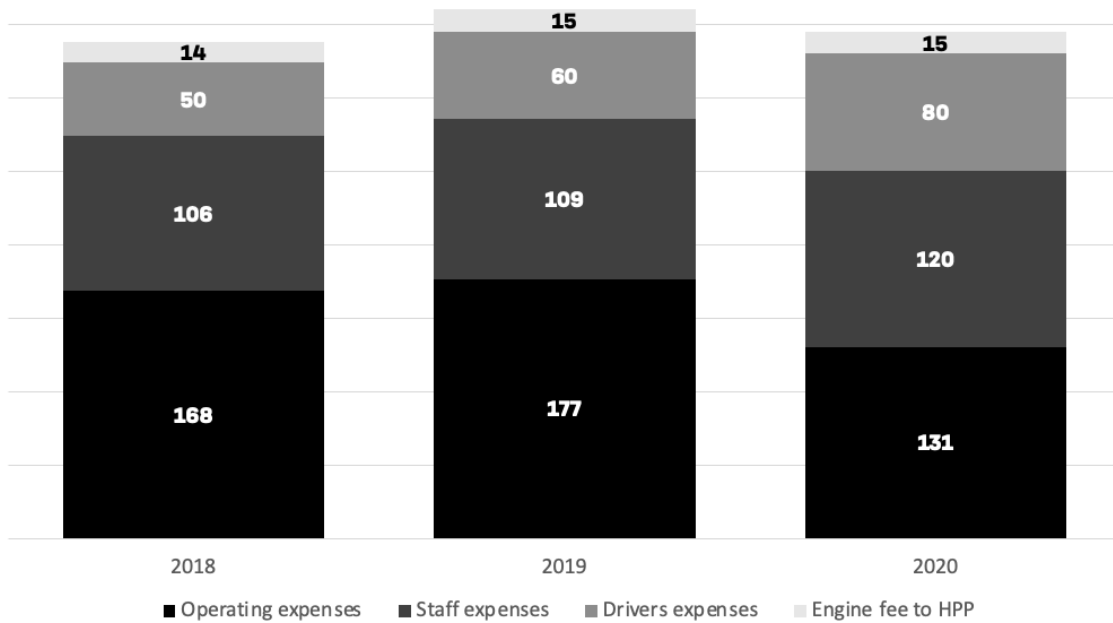
<sup>1</sup> Consideration of F1 teams whose financial report is publicly available  
Sources: Author's own work

**Figure 8:** Overview of major revenue streams (2018 - 2020)



Sources: adapted from Elberse and Vicente (2022)

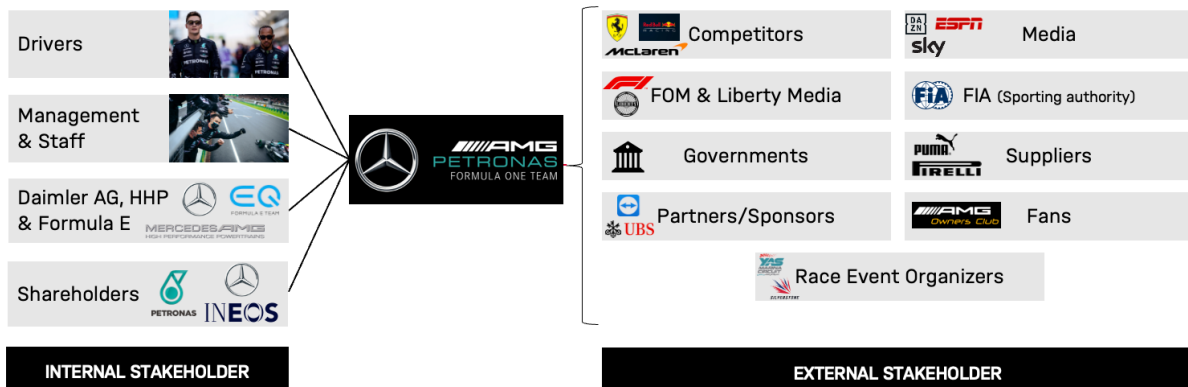
**Figure 9:** Overview of major cost streams (2018 - 2020)



(in million €)

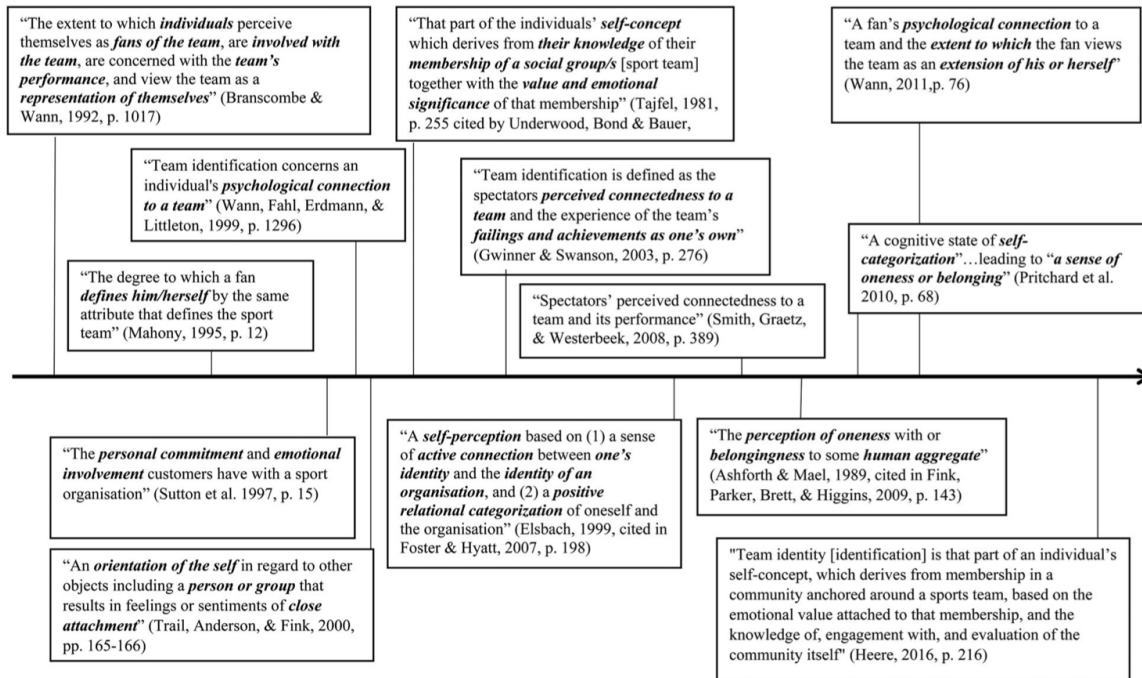
Sources: adapted from Elberse and Vicente (2022)

**Figure 10:** Overview of Mercedes' stakeholder



Sources: Author's own work

**Figure 11: Team identification definitions**



Sources: adapted from Lock and Heere (2017, p. 416)