

A Work Project, presented as part of the requirements for the Award of a Master's degree in Finance from the Nova School of Business and Economics.

HOW CAN THE USAGE OF DATA ANALYTICS HELP FOOTBALL CLUBS CREATE  
A COMPETITIVE ADVANTAGE: A RESEARCH ON LIVERPOOL FOOTBALL CLUB

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**Abstract:** Given the huge complexity of the sport, clubs need to seek for contemporary approaches to the usage of data to improve the club's overall performance. The purpose of this thesis is to understand how data science is shaping the decision-making of football clubs and how can clubs leverage on the power of data to gain a competitive edge in an extremely challenging industry. Further analysis on Liverpool F.C. suggests that indeed data analytics had an impact in its successful stride for silverware, with notorious improvements both sportingly and financially, however this might have been influenced by other factors.

**Keywords:** Data analytics, big data, decision-making, competitive advantage, football clubs, performance, tactics, revenues, player negotiations, player evaluation, brand value, injury prevention, social media, Liverpool F.C., Premier League, Fenway Sports Group

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# Table of contents

<b>1. INTRODUCTION</b> .....	<b>3</b>
<b>1.1 TOPIC PRESENTATION AND PROBLEM IDENTIFICATION</b> .....	3
<b>2. LITERATURE REVIEW</b> .....	<b>4</b>
<b>2.1 TACTICS</b> .....	4
<i>2.1.1. Positional Data</i> .....	4
<b>2.2 TRAINING</b> .....	5
<i>2.2.1 Skill Development</i> .....	5
<i>2.2.2 Injury prevention</i> .....	6
<b>2.3 PLAYER RECRUITMENT / MARKET VALUE</b> .....	7
<i>2.3.1 Crowdsourcing: Transfermarkt</i> .....	7
<i>2.3.2 Data Analytics</i> .....	7
<b>2.4. MEDIA</b> .....	8
<i>2.4.1. Social media &amp; Web Apps</i> .....	8
<b>3. METHODOLOGY</b> .....	<b>9</b>
<b>4. DISCUSSION</b> .....	<b>11</b>
<b>4.1. BACKGROUND</b> .....	11
<i>4.1.1. Fenway Sports Group (FSG)</i> .....	12
<b>4.2. PERFORMANCE</b> .....	12
<i>4.2.1. English Premier League</i> .....	12
<i>4.2.2. Brand Value</i> .....	14
<b>4.3 MEDIA/ FAN ENGAGEMENT</b> .....	15
<i>4.3.1. Revenues</i> .....	15
<i>4.3.2 Broadcasting Revenues</i> .....	17
<i>4.3.3. Matchday Revenues</i> .....	18
<b>4.4. TRAINING</b> .....	20
<i>4.4.1. Injury Prevention</i> .....	20
<i>4.4.2. Player Performance</i> .....	21
<b>4.5. PLAYER EVALUATION/RECRUITMENT</b> .....	21
<i>4.5.1. Transfer Negotiations</i> .....	21
<i>4.5.2 Player Evaluation</i> .....	22
<b>5. LIMITATIONS</b> .....	<b>23</b>
<b>6. CONCLUSION</b> .....	<b>24</b>
<b>7. REFERENCES</b> .....	<b>26</b>
<b>8. APPENDICES</b> .....	<b>34</b>

## **1. Introduction**

### **1.1 Topic Presentation and Problem Identification**

Football clubs are no longer just clubs but rather big businesses with the ability to generate massive revenues (Muller, Simons & Weinmann, 2017). Yet, there is a big implication: winning (Schumaker, Solieman & Chen, 2010). Given the huge competitive environment, the ability to translate the collected information into meaningful data (Bierly, Kessler & Christensen, 2000) and build relationships within the data collected (Barlas, Ginart & Dorrity, 2005) will enable clubs to enhance their productivity and build-up on innovative strategies (O'Reilly & Knight, 2007).

Analytics, in some form or another, have always been a part of sports (Wasserman et al., 2018). This ranges all the way from the most basic form of statistics, such as the scoreboard of the game or the classification table, and traces back to the first documentations in sports history. With the growing popularity for sports over the years, professionals have sought of ways to enhance performance and develop their understanding of the game (Raabe & Memmert, 2018), with football clubs aiming to revolutionize older practices (Schumaker, Solieman & Chen, 2010) as they try to gain knowledge in order to stay ahead of the competition.

Until recent years, sports organizations relied on human expertise for decision-making: coaches, managers and scouts' ability to translate the data into knowledge (Schumaker, Solieman & Chen, 2010) that would then be used to educate the players on the pitch. Consequently, the data collection and translation would result in a very time-consuming procedure. However, with the growth of information technology aligned with the rise of big data, very large amounts of data are being generated daily, leading to a need for more advanced methods to treat and analyse data for those seeking a competitive edge. Alternatively, complex algorithms are now the ground for investigation of these huge data sets (Raabe & Memmert,

2018), by ensuring a more efficient and precise tactical and performance analysis which allows teams to cope with the complexity and dynamics of the game (Garganta, 2009).

## **2. Literature Review**

### **2.1 Tactics**

In football, amongst some of the most important decisions to be made in order to build a winning strategy is in regard to the design of effective tactics (Schumaker, Solieman & Chen, 2010). In the past, managers had limited access to data and would solely rely on basic statistics, and allied with their experience and their instinct, they would try to construct a winning formation (Lewis, 2003). This approach, however, would sometimes counter-act against the patterns hidden in the data and would lead to a misinterpretation of the opposing team's game plan. Today, with the usage of data analytics, teams are now able to track performance more thoroughly, detect trend and patterns and study each team's strengths and weaknesses (Dong & Calvo, 2007). With a quantum leap in the fields of video-recording and wearable technology, combined with the ability to store and process huge amounts of data almost instantly, clubs are now able to record every movement happening on the pitch and every interaction between the players and the ball (Gudmundsson & Wolle, 2013).

#### **2.1.1. Positional Data**

With tactics becoming increasingly important to create a superior advantage, positional data allows football analysts to break down the game into several pieces, helping managers configurate tactics more precisely (Raabe & Memmert, 2018). Once tactical focal features are identified, the management team is able to optimize the performance by transforming the data into actionable information (Schumaker, Solieman & Chen, 2010) which can be used to anticipate the opponent's moves and exploring their weaknesses as well as conditioning their strengths. Moreover, an accurate usage of the data collected can help the performance by

adjusting the selection of the players who possess the specific abilities required for each game (Vilar, Araújo, Davids & Bar-Yam, 2013) and consequently influencing tactical creativity on goal scoring (Kempe & Memmert, 2018). Notwithstanding, machine learning has the ability to learn patterns and trends from the historical data collected and apply its knowledge to unforeseen data in an on-demand basis (Chen & Chau, 2004), allowing managers to adapt their tactics during the game to unforeseen events.

## **2.2 Training**

Training is a crucial step in the implementation of the manager's strategy, and as the volumes of data rise exponentially, clubs also leverage on this data for the development of effective training routines (Raabe & Memmert, 2018). The facilitation in the recording and analysis of sports behaviours (Garganta, 2009) with the help of computer vision and wearable GPS technology can assist in training (Wu et al., 2020) by allowing coaches to collect data on physical, technical and tactical player, as well as team performance, which will help the coaching staff correct training processes (Raabe & Memmert, 2018) and meet the demands of a competitive environment. Nowadays, as the game of football evolves, players differentiate themselves through their tactical and technical skills rather than their physical and physiological characteristics (Kannekens & Visscher, 2011), therefore highlighting the importance that the usage of data can have on the performance. Moreover, managers will be able to control workloads and monitor intensity effectively, minimizing the risks of an injury (Jaspers et al., 2016).

### **2.2.1 Skill Development**

Being widely regarded as one of most important factors for success, training is crucial in the development of skilled athletic performance (Hodges & Franks, 2002). As the game evolves in complexity and speed, the ability of players to understand the game (tactical skill) is of critical importance for players to anticipate and identify problems faster and to have the

necessary ability to come up with the best response. In order to promptly identify these situations, the capability of big data to identify trends and patterns will allow players to improve their decision-making speed (Araujo & Hristovski, 2006), allowing them to prepare in advance for such circumstances.

However, to excel in these situations' players will not only require tactical skills for the identification of these, but also, they must have the necessary technical skill to excel. Given that training is highly subject to each player's physique, skill and position on the field (Carling et al., 2008), the coaching staff, based on the data collected is able to make the necessary adjustments by developing individualized training drills to focus on specific moments of the game (Buchheit, 2014). This way, not only the team as a whole is able to improve performance, but individually, players are able to develop their technical skills and flourish at their specific functions.

### **2.2.2 Injury prevention**

Until the appearance of data and player monitorization, the medical staff would solely rely on the physical indicators to determine if the player was fatigued or not (Henriques, 2018). This approach, however, is subject to human interpretation and error, and in a very competitive environment, the loss of players to injuries will negatively affect the performance of the team (Hägglund et al., 2013) and might end up being the key differentiator in the team's ability to fulfil its objectives. Immediately, since accumulated fatigue can increase the risk of sustaining an injury (Bush et al., 2015), clubs have adopted a data-driven approach to tackle this problem, more precisely GPS technology to monitor the players efforts (Jaspers et al., 2016). This leap in technology has allowed to identify the optimal levels of intensity in training, which will consequently result in improved levels of fitness and performance from their players (Buchheit, 2014). In addition, and considering the huge salaries elite players receive, a squad affected by injuries can represent an enormous financial cost for the club.

## **2.3 Player Recruitment / Market Value**

Business wise, player transfers represent an essential role in the active management of the club and rank amongst the most important sporting decisions (Amir & Livne, 2005), therefore, it is of major importance that clubs not only look for players that are a good fit for the tactics of the team (Zamboni-Ferraresi, Rios & Lera-López, 2018), but also it is crucial that clubs are able to correctly estimate the players' market value in order to seek a competitive advantage. The market value of each player is an estimation of the price at which the club is willing to trade the rights for a given player (Herm, Callseen\_Bracker & Kreis, 2014), and whereas in the past these have been of the responsibility of experts and scouting teams, nowadays clubs have sought alternatives to improve precision in player evaluation from which two have emerged: crowdsourcing and data analytics (Müller, Simons & Weinmann, 2017).

### **2.3.1 Crowdsourcing: Transfermarkt**

Just as football fans began to interest themselves in the evaluation of their favourite players, Transfermarkt has emerged as the leading online platform where fans are able to judge each players' market value in addition to the regular football features such as news and scores (Muller, Simons & Weinmann, 2017). Given that people are commonly susceptible to a bias, or even have different levels of knowledge (Lewis, 2003), it would be expected that the values predicted would be somehow distorted, however, its precision is actually remarkable and very closely correlated with the experts' estimates (Lorenz et al., 2011). Immediately, Transfermarkt has established itself as the major source for market values, as football clubs and studies continue to trust its reliability for player analysis and recruitment (Franck & Nüesch, 2011).

### **2.3.2 Data Analytics**

Yet, despite being an accurate predictor for the actual value of the player, crowd estimates are unfavourable for players who are less known, resulting in biased estimations. Notwithstanding, these values are not updated frequently due to the needed input from its users,



as opposed to a data driven approach, where the market values can be updated on an every-day basis (Müller, Simons & Weinmann, 2017). More importantly, the need for data analytics arises due to the fact that clubs are not able to exploit a competitive advantage during negotiations due to the fact that this information is of public access for both parties of the deal (Müller, Simons & Weinmann, 2017). On the contrary, the usage of data analytics will enable football clubs to evaluate the players internally, allowing them to compete for an advantage during negotiations. Moreover, it will help managers to precisely identify the players who are more capable to adapt to the teams given style of play (Bush et al., 2015).

## **2.4. Media**

As sports continue to gather millions of fans, sports industry has recently started to rely on the usage of data analytics to stay ahead of the competition, and moreover, to optimize fan experience. While the ultimate goal for any club is winning, doing so will help clubs enlarge their fan base (Evans & Smith, 2004) and capitalize on the support from their fans to achieve better results and attract more and better partnerships. According to Business Wire, the global spectator sports market is expected to yield \$139.5 billion in 2020, and with football being the most popular sport in the world, clubs have the opportunity to exploit the potential of this market and significantly enlarge their revenues through improved customer experience and new sponsorship deals. Equipped with data-oriented systems, teams are now able to maximize the margins from sponsorship negotiations and improve the financial health of the club. According to Deloitte, it is extremely useful to provide insights on the customers attending the games and on those watching at home and help remodel the advertisements both on the stadium and at TV broadcasts in attempt to captivate the identified targets.

### **2.4.1. Social media & Web Apps**

Advances in the field of technology have allowed fans to closely connect with their favourite organizations (Evans & Smith, 2004) and are now able to almost effortlessly access

all kinds of information about their favourite players and teams. Not surprisingly, with social media becoming increasingly popular, sports organizations have the opportunity to build upon social media platforms to expand their reach and attract more customers to their business (Scelles et al., 2017). Throughout these platforms, clubs are able to effectively communicate with a very large audience, and by using data to study the trends and habits of their followers, teams are able to personalize their marketing tools to better suit the demands of the fans (Scelles et al., 2017), to improve the quality of the products and services delivered (Byon, Zhang & Baker, 2013), and to identify new potential targets.

Today, in addition to social media, some clubs have developed web apps that aim to improve convenience and guide their fans through an unforgettable experience. These allow for a more convenient way of purchasing tickets and buying club merchandise, which will therefore result in an expansion on these sources of revenue. Moreover, it enriches the club's database with the user provided details, which allows the management to gain important information about its customers and consequently will allow clubs to build evidence-based initiatives to improve customer satisfaction and leverage additional income (Williams & Chinn, 2010).

### **3. Methodology**

In order to study the impact that data analytics can have in a football club, I will dive in deeper into a real case scenario and try to understand if in fact a data driven approach can be a winning strategy in the search for a competitive advantage in the world of football. It is known that in 2012 Liverpool Football Club started to integrate the usage of information technology and data to improve their performance, and ever since, the club from Merseyside has come a long way from fighting for a top 4 spot in the English premier league, to becoming world champions and one of the most feared and enthusiastic teams in the globe. Is this, however, explained by the numbers? Further, we will analyse the metrics as follows:

**Performance:** I will gather data from the official statistics of the English Premier League to compare the performance of the club in the domestic championship to track the evolution of the team on the pitch over the years in order to understand if data science has helped Liverpool obtain better results. Additionally, using data from Brand Finance, I will study the evolution of the brand value of Liverpool FC while aiming to understand if the club is successfully being able to deliver superior value since the integration of data analytics.

**Media/fan engagement:** To track the effectiveness of the adoption of data analytics on social media, I will compare the number of followers on social media platforms that Liverpool have gained over the years. Yet, this does not necessarily result in added revenues, so I will also dive deeper into the sources of revenue, more specifically looking into the three segments of revenue: Matchday Revenues, Broadcast Revenues and Commercial Revenues. Additionally, so I will also compare it with the average attendance in the home games to conclude if the club is successfully advertising and promoting. Moreover, I will look into the partnerships and understand if since then, the club was able to reinforce its negotiable power and ability to pursue better contracts. This part of the study will be done using data from the Deloitte Football Money League.

**Training:** In order to understand if in fact Liverpool is able to successfully leverage on the power of the data to control for physical condition and fatigue, I will be comparing the number of injuries along the past years. Moreover, I will compare the injuries with the number of games played to ensure a more precise analysis. In order to understand if the players are able to flourish and improve their skillset when training with Liverpool FC, I will also look into some of the players' performances to understand if there is are improvements by comparing with their performance regarding their previous club. This will be done by comparing individual player statistics collected from Transfermarkt, and in order to facilitate interpretation we will select a sample from our database with focuses on the strikers the club has had during the

seasons of 2004/2005 to 2020/2021. In order to infer these conclusions, I will compare the number of goal contributions for each player (goals + assists), however, given that this interpretation can be misleading due to the amount of time played, we divided the goal contributions per minute played in order to ensure a precise base for comparison.

**Player evaluation/recruitment:** Using data from Transfermarkt, I will be studying the transfers of the club, more specifically, the prices at which players were transferred (both bought and sold) to try and determine if Liverpool FC managed to gain a competitive advantage in the negotiations. This will be done by comparing the player's market prices with the transfer value at the time of the agreement. Moreover, I will also try to understand if the players were being correctly evaluated by the club by seeing the evolution of their market value since the purchase. This will enable us to understand the club's ability in identifying undervalued players since the integration of data, and to interpret if negotiations were, in fact, settled at a fair price, or if the club was wrongly pricing its actives.

## **4. Discussion**

### **4.1. Background**

Liverpool Football Club (LFC or Liverpool F.C.) is a professional football club from the city of Liverpool that competes in the English top division, the Premier League, and widely recognized as one of the most successful clubs in the history of the sport. Owners of trophy cabinet that would envy most clubs in the world and a history of tremendous success, ever since their years of dominance in between the 1970's and 1980's, and by consequence of the increasingly competitive environment, the club was struggling to find the path to glory and had to seek alternatives in their strive for success (Lichtenthaler, 2020). The acquisition of the club by the Fenway Group in 2010 aligned with the introduction of a data science team led by Ian Graham in 2012 represents the face of the change and a new approach towards the management

of a club that was close to bankruptcy (Lichtenthaler, 2020). With the premier league title in sight for 30 years, Liverpool F.C. finally managed to get their hands on the silverware this year and are trying to cement their dominating position in world football with the help of data.

#### **4.1.1. Fenway Sports Group (FSG)**

Before acquiring Liverpool F.C., the Fenway Sports Group had already begun its data revolution in sporting world with the Boston Red Sox (Williams, 2020). In fact, FGS had already tried to make Billy Beane (the man responsible for Moneyball) the General Manager of the Red Sox in 2002 (Rice-Coates, 2020), supporting the evidence that the group was focused on embracing data towards decision-making. Since acquiring the club, the group appointed Damien Comolli as their first director of football to lead the club towards a data-driven approach (by indication of Beane), alongside the director of research Ian Graham and the head of performance analysis Michael Edwards (Addison, 2020). The exponential preponderance and vision towards data analytics from the group is understood by the appointment of Michael Edwards, with a past in data science, as the clubs sporting director as of 2016, and widely considered as one of the masterminds of the club's revival alongside Ian Graham (Addison, 2020).

Under the ownership of the group, Liverpool F.C. have improved their performance on the pitch, in which a big part must be attributed towards the Fenway Group and its vision towards a revolutionary approach to the game of football.

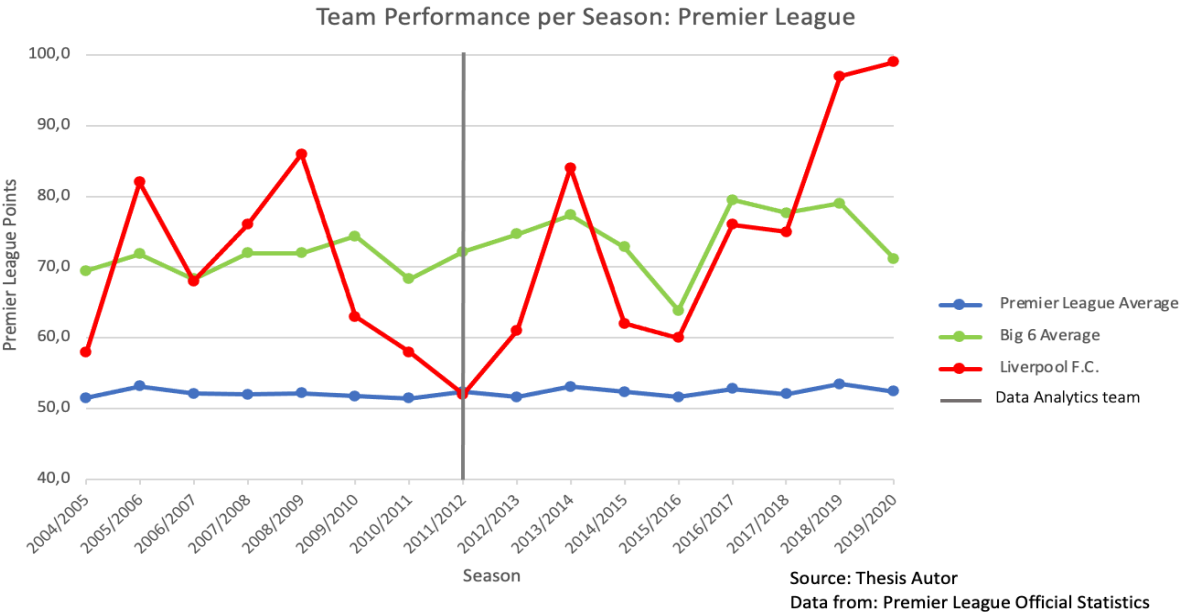
## **4.2. Performance**

### **4.2.1. English Premier League**

By the time that Ian Graham and his team were hired by Liverpool FC, the club were struggling to win the league for over 12 years, and given that the financial power of the club wouldn't allow them to financially compete with their rivals, they had to seek other ways of developing a competitive advantage. Prior to the data science team's arrival, Liverpool FC's

performance was falling short of the expectations, having only finished top three once in the last five seasons [Annex 1]. Upon the recommendation of the data analytics team, the management appointed Jurgen Klopp as the new manager in 2015. Jurgen Klopp, the man responsible for bringing the premier league back to Anfield had finished its spell at Borussia Dortmund on a very negative note, yet, Ian and his team, when analysing the data identified that the results didn't match the performance in most of the statistics (Schoenfeld, 2020).

Disappointment was growing in Liverpool since the Fenway Group acquired the club, and with an average league standing of 6<sup>th</sup> place in their first eight seasons running the club [Annex 1], critics often blamed the poor sporting performance on the management's approach towards the usage of data rather than human expertise (Hebert, 2015). In spite of the criticism surrounding the management of the club, their ability to identify the correct manager that would complement both his human expertise with the integration of data analytics drove Liverpool FC to glory (Lichtenthaler, 2020), winning both the Premier League and the Champions League in consecutive years while setting the two best campaigns in the club's Premier League history, with 99 and 98 points, very close from the absolute record of 100 points set by Manchester City in 2017, and clearly setting themselves apart from their most fierce top 6 rivals [Team Performance per Season: Premier League].

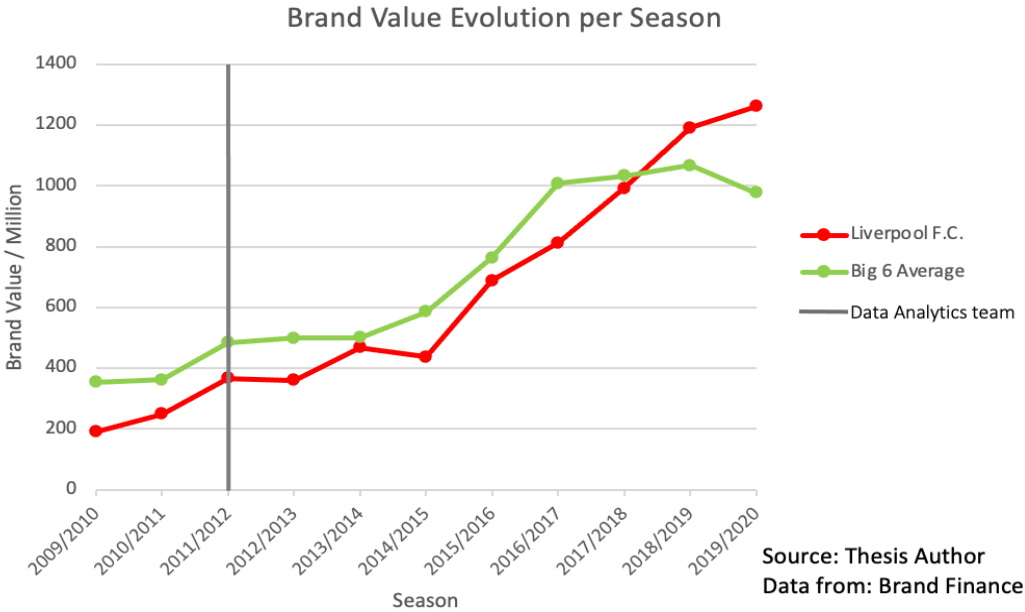


Moreover, by analysing the official Premier League Statistics for Liverpool's history in the league (created in 1992/1993), ever since the introduction of data analytics for decision support systems in the season 2012/2013, the club has registered its best averages in: points, wins, draws, losses, goals scored and goals conceded [Annex 1]. Given that initially the Premier League had a total of 42 games as opposed to the current 38 games (as of the 1995/1996 season), these achievements are even more impressive and hold if we compare the stats per game played. Additionally, by looking deeper into in-game statistics, data insights provided an added-value in passing and shooting accuracy, number of big chances created and error leading to goals, yet this specific data is only available from the 2010/2011 campaign onwards.

#### **4.2.2. Brand Value**

As defined by Brand Finance, the brand value of a club encompasses the club's trademark and its intellectual property, more precisely, its tangible assets (such as the players, stadium and its facilities), and its disclosed intangibles with brand value, players developed and goodwill [Annex 2]. In 2010 the club was going through a rough phase both sportingly and financially, leading to a need for a change in the ownership. Consequently, the club, which according to Brand Finance at the time was valued at €191 million was acquired by the Fenway Sports Group for £300 million (about €349 million) at a time where the football industry was developing at a fast rate [Annex 3]. Ever since the Fenway Group acquired the club, their brand value has been steadily increasing, in exception from the season of 2012/2013, which coincides with a year of slow growth in the sector [Annex 3 & 4]. If we parse the data to investigate the evolution of the Liverpool brand since the integration of data analytics, upon the arrival of the team, its value, according to the same source, has had an increase of about 244% and is set at €1262 million as of 2020, registering an evolution of 560,73% since the acquisition of the Fenway Group [Annex 5 & 6]. In spite of these being very good indicators of the value-added

since leveraging on data, we should compare it with the evolution of the football industry as a whole to understand at which extent the club’s value was riding along from the increased value of the sport. Looking at the same period of 2012 to 2020, the value of football industry has increased 133,25%, meaning that Liverpool FC’s practices have enabled them to almost double the rate at which the sport is evolving [Annex 4]. Consequently, Liverpool FC have registered one of the most accentuated improvements from the clubs in the top 10 over the past 10 years [Annex 7], ranking them, according to the same source, the 4<sup>th</sup> most valuable football team in the world [Annex 8] and the 4<sup>th</sup> strongest in the year of 2020 [Annex 9]. By comparing with the evolution of the top 6 clubs in England, Liverpool F.C. have finally managed to surpass their rivals’ average on the 2017/2018 season, providing supporting evidence of the management’s increased ability to maximize the club’s value.



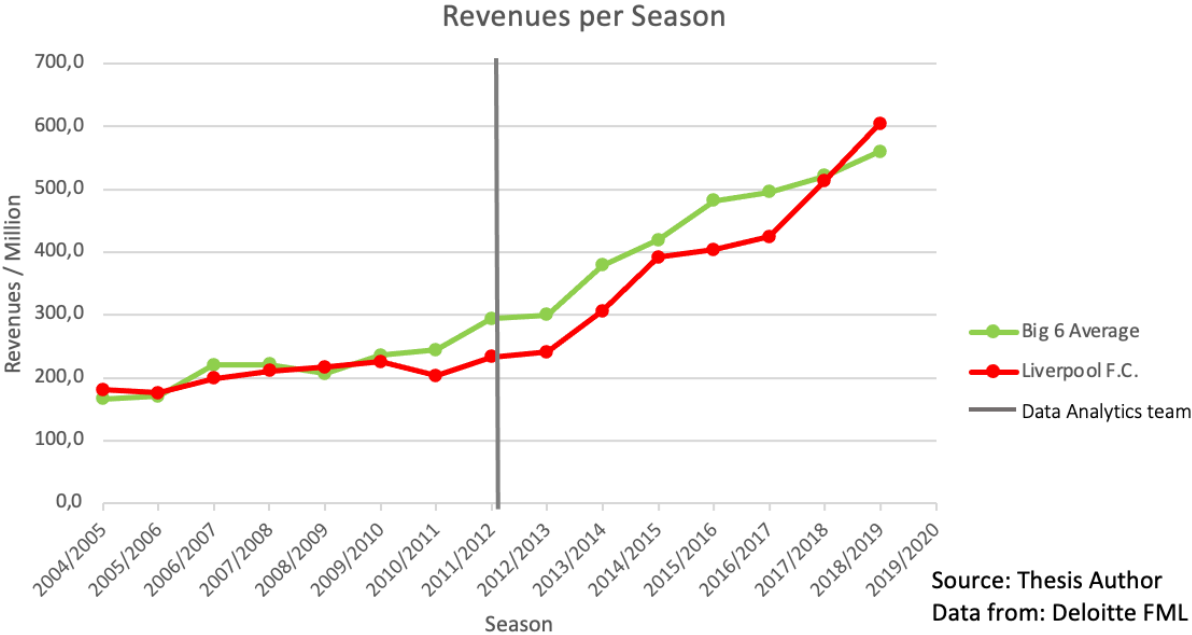
### 4.3 Media/ Fan Engagement

#### 4.3.1. Revenues

The analysis on the brand valuation over time has indicated that the club is performing better both financially and sportingly and is managing to add value to the organization, which is expected to be, in part, explained from its increased ability to boost its revenues. By diving



deeper into the data collected from the Deloitte Football Money League, it is possible to state that ever since the data science team started to have preponderance in managerial decisions in 2012, the financial stability of the club has reached a new proportion. If we look at the evolution of the club’s revenues between the years of 2004-2010 (prior data analytics), the management of the club was unable to maintain a consistent improvement in their income over time [Annex 10], however, comparing with the big 6’s average the results were similar, suggesting a general difficulty in maintaining the revenues [Revenues per Season Graph].

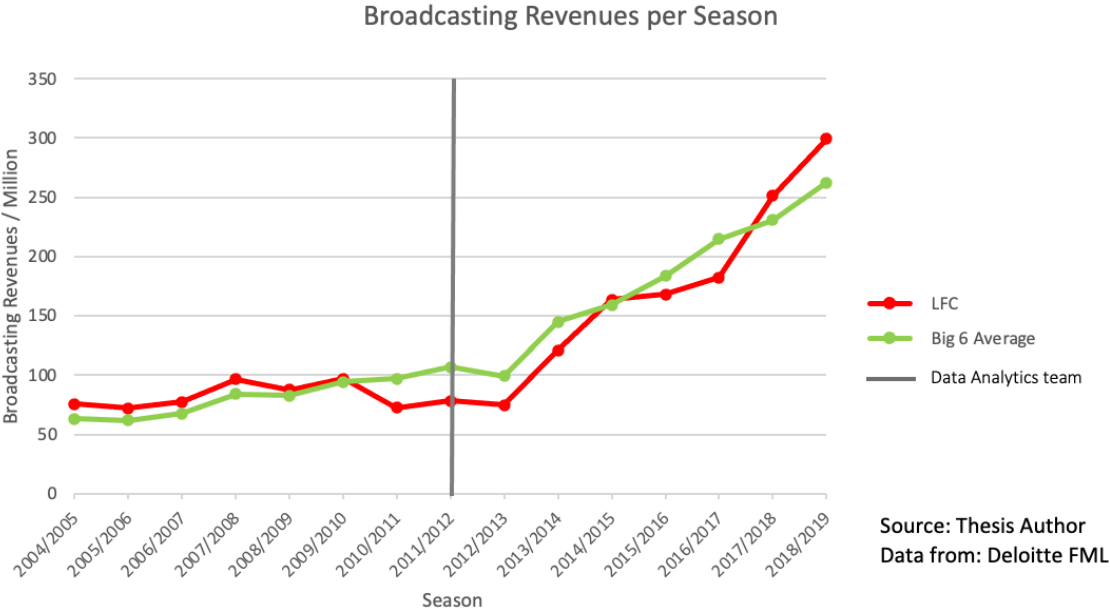


In the first year of the Fenway Group’s ownership, its revenues decreased by about 10% which represents the largest negative change between the years of 2004 to 2019 [Annex 10]. However, ever since 2012, the management of the club has managed to keep a steady improvement in the club’s revenues, registering positive changes yearly, establishing themselves since 2017/2018 as the 7<sup>th</sup> club in the world in respect to its revenues [Annex 10], and registering an incremental change of about 151% between the years of 2012 to 2019, as opposed to an incremental change of about 28% between the years of 2004 to 2012 [Annex 10]. Although the first years under the new ownership suggested that the club was falling short of its closest rivals, time and adaptation to a new data-driven approach has allowed the club to

surpass the average of the top 6 clubs in English football during the 2018/2019 season, and its very good performance lately suggests that the difference towards its rivals might increase in future years. We will now divide the sources of revenue into three segments: Matchday, Broadcasting and Commercial

### 4.3.2 Broadcasting Revenues

Broadcasting revenues have been fuelled due to the improved performance of the club, allowing them to participate in European competitions and creating additional sources of broadcast revenue, which according to Deloitte Football Money League, has allowed the club to establish themselves as the football club with the highest broadcasting revenues in the world over the seasons of 2017/2018 and 2018/2019. Indeed, the exposure diverse competitions creates a larger opportunity to boost these revenues, yet, the broadcast revenue contracts are out of the control of the management and clubs should therefore focus on maximizing their revenues on matchday and commercial streams (Deloitte Football Money League, 2020) to stimulate future growth.

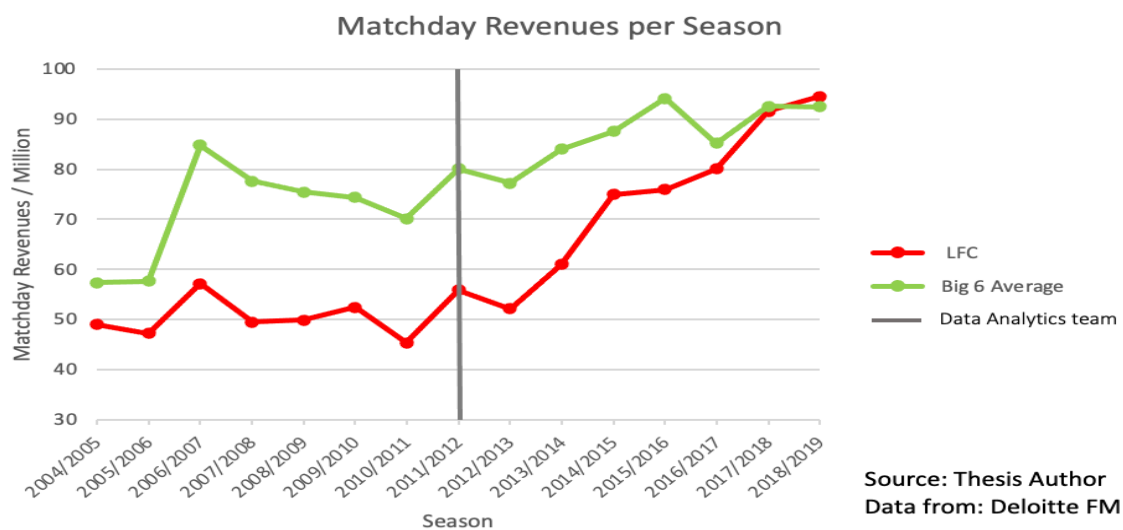


Again, by comparing with the largest 6 clubs in the league, it is to note the negative impact of the adaptation period caused by the change in ownership in the first year, however, since then the club’s improved performance on the pitch has been reflected on the broadcasting

revenues, with special focus on the season of 2018/2019 when the club won the Champions League [Annex 11].

### 4.3.3. Matchday Revenues

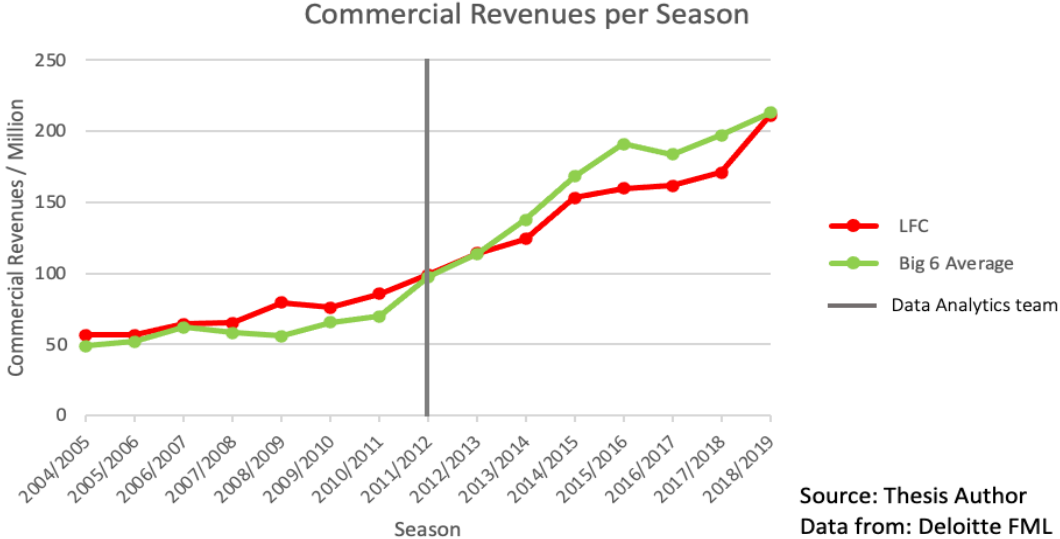
Matchday revenues are generated from the ticket sales and from hospitality sales during the home games (Deloitte Football Money League, 2020). Prior the analytics insights, between the years of 2004 and 2012, an average attendance of 45700 fans at Anfield per game yielded about €51 million to the club’s accounts, well below the top 6 average [Matchday Revenues per Season Graph] and amounted to about 25% of the total revenues [Annex 12], meaning that the club was able to generate, on average, about €1116 per fan during this time frame. If contrasted with the years between 2012 to 2019, an average attendance of 47786 fans generated about €76 million and the average consumption per fan rose to approximately €1590. This increase in fan expenditure of about 42,5%, let alone, is a very good indicator of the data’s ability to provide insights on the customers attending the games in attempt to improve customer satisfaction and leverage income, moreover, after being unable to continuously improve their numbers during the years of 2004 to 2012, ever since 2012 Liverpool have been thriving and producing club-record breaking values yearly, and have managed to exponentially increase their numbers when compared with the same top 6 clubs [Matchday Revenues per Season Graph].



During the season 2018/2019 campaign they were, according to Deloitte, the 5<sup>th</sup> club in the world with the largest matchday revenues, generating about €1784 per fan during the season, and finally surpassing the average values generated by the same 6 largest clubs.

**4.3.4. Commercial Revenues**

Commercial revenues arise from sponsorship deals, sale of the clubs merchandising and revenue from other commercial operations such as stadium tours (Deloitte Money League, 2020) and therefore help us understand the club’s ability to promote their brand in attempt to attract better deals and improve financial health. Ever since 2004, the management has been able to improve their commercial revenues on a yearly basis (with exception of the season 2009/2010), still, since 2012 the values have erupted, representing an increase of about 85% as of the year of 2019 [Annex 13]. However, by comparison with the same 6 clubs, in between the years of 2012 to 2018 we are able to understand that in fact the club was not able to keep up with its rivals and the significant increase was in part due to a general increase in commercial revenues [Commercial Revenues per Season Graph].



Yet, the latest figures from the season 2018/2019 show a great leap in commercial incomes, and in fact, it is expected that Liverpool FC will continue to thrive in this subject and will collect even higher revenues as the latest 5-year sponsorship deal with Nike set to start in the 2020/2021 campaign is predicted to surpass \$100M per-year according to CNN, and

becoming the most expensive sponsorship deal in England. Moreover, the club has a partnership with Standard Chartered until 2023, and if they manage to keep their good performances on the field, they will attract more partnerships on the coming years (Brand Finance Football Annual, 2020) and most likely surpass their rivals again.

#### **4.3.5. Social Media**

Liverpool FC have managed to capitalize on its powerful brand image and exposure to continue to attract to new fans to their social media platforms. There has been a consistent and incremental change in the number of followers across all social media platforms [Annex 14], with a special attention to Instagram with registered an increase of about 97% since the year of 2018. Still, Facebook is the social media platform which has the highest fan engagement, surpassing the barrier of the 35 million likes in the year of 2019. Moreover, according to Newton Insight, for the same year of 2019, Liverpool FC ranked 1<sup>st</sup> place in the Premier League for engagement on its YouTube channel, with their Inside Anfield proving a reason why.

### **4.4. Training**

#### **4.4.1. Injury Prevention**

Although we expected the number of injuries to decrease after the year of 2012, it has actually been increasing over the past seasons, with a higher number of injuries per game as well [Annex 15], and therefore it is difficult to infer conclusions about the perceived value that data analytics can have on the prevention of injuries. Still, it is to note that data analytics has a perceived added value in intensity control, which therefore reduces the risk of injuries arising due to excess effort and not having an impact on contact injuries. Even though we do not have this information for the past seasons, if we focus on the current season, Liverpool are the club in the Premier League with the highest number of injuries in the 2020/2021 season with 7 players injured as of December 7<sup>th</sup>, however only 4 of them are muscular injuries and could be prevented (LFC Globe, 2020), while the rest arise from unpreventable contact during matches.

#### **4.4.2. Player Performance**

If we compare the strikers' performance with their previous clubs [Annex 16], the names of the forwards showed in red represent those who were able to improve their performance since arriving to the club. Out of the players in question, about 42% registered a better average of goal contributions per minute while playing for Liverpool FC. If we dissect the data to understand the club's ability to drive the potential of its players in training from the period before the introduction of the data science team and after we are able to study its evolution. By looking at the data prior to the season 2012/2013, an average of about 41,2% of the players improved their numbers while training with the club. On the other hand, if we look at the period starting when the data science team's insights were used for training development (season 2012/2013), this average increases to about 52,6%, and suggesting that indeed this verifies. Moreover, there is more evidence if we segment this data further and look into the latest 6 seasons. Over this period, the club was able to optimize player performance into a whole new level, where an average of 77,8% of the players improved their contribution.

#### **4.5. Player Evaluation/Recruitment**

##### **4.5.1. Transfer Negotiations**

By taking into consideration Annex 17, where the players bought for a sum below their market value (according to Transfermarkt) are represented in red, a total of 90 player transfers between the seasons of 2004 to 2020 whose market value was about €1060M, cost Liverpool FC an amount of approximately €1335 million and resulting in a payment of about €275 million above its market value. Again, by splitting the data to understand the power of data in providing a competitive advantage in player negotiations, at first sight, and against what one would expect, we can understand that a big part of the money paid in excess resulted from the transfers made between the period of 2012-2020. The total for this period was about €200M (73% out of the €275M) and resulted in an average of about €4.27M paid extra per player as opposed to an

average of about €1.73M above for the years of 2004-2012. Yet, the fact that nowadays players get traded for much greater values has inflated these numbers, and if we again compare the same periods, but this time if we divide the average gain/loss per player by the average value of the players transferred the results are more consistent. This time, on average, Liverpool FC paid about 21,77% above market value per player for the years of 2012-2020, while for the years of 2004-2012 the club paid about 18% above market value. Still, the numbers favour the years prior the arrival of the data science team and we are unable to corroborate our expectations based on this data, however, it is worth to state that the club has bought players that successfully led the club to the championship and therefore must be taken into consideration the added value of these actives.

If instead we analyse the players sold by the club [Annex 18], where the players sold for a sum above their market value are represented in red, our results favour the data analytics team. While, on average, Liverpool FC sold their actives for about €1,95M below their market values for the years of 2004-2012; since then their negotiations have yielded an average of about €0.15M above their market value. Even though it does not seem a very significant margin, if we look at the absolute value for the years of 2012-2020, the club has managed to make a profit of about €6,34M, as opposed to a negative result of €44,75M for the previous period. Again, we should not forget that through the latest seasons the club has managed to keep its most valuable players which, if sold, would exponentially improve the results.

#### **4.5.2 Player Evaluation**

Out of the players bought by Liverpool FC, those who registered an increase in value are represented in red [Annex 19]. During the seasons of 2004 to 2020 about 51% of them increased value since their purchase, about 41% suffered decreases in their market value, while the rest remaining constant. Again, there is evidence to support the data science team if we segment the data by the period pre-data and after-data, backed up by a significant improvement

on the ability to develop the skills of their players since 2012. By comparing the periods of 2004-2012 and 2012-2020, there is proof to support the data science team, having valued their actives, on average, about 150% as opposed to about 53% for the seasons of 2004-2012.

Moreover, this might also suggest that actually, the club is managing to precisely price and identify the real value of the players they are targeting. The fact that on average, the players that Liverpool FC bought registered an increase in value by about 150%, proves that in fact, just like expected, data analytics provide a big competitive advantage compared to crowdsourcing for player recruitment (like Transfermarkt) due to the fact that these are recurrently outdated. Even though one might be inclined to undervalue the predictive power of data when comparing only the gain/loss during the transfers (4.5.1), we are now able to understand that the initial values predicted by crowdsourcing alternatives were below their true value and therefore resulting in a larger discrepancy between the price paid and their undervalued market value. Although it suggested that Liverpool overpriced some of their assets, in fact the club was able to identify undervalued players. A good example could be the forwards Sadio Mané and Mohammed Salah bought for €41,2M and €40M, respectively, which seemed a lot of money for players who, according to Transfermarkt were worth €20M and €35M, respectively, and are currently valued at €120M each.

## **5. Limitations**

The main limitations relate to the fact that Liverpool FC, just like any football club, are not willing to give complete insights about their procedures in order to protect their competitive advantage, and therefore complicating our analysis. This has made it impossible to understand the exact processes behind the development of the club over the past seasons and leading to measurable alternatives in order to interpret the progression in their championship run. More



specifically, the secretive nature behind their strategy for success made it unfeasible to study their tactical evolution and their ability to analyse their opponents.

Moreover, given that only recently football clubs decided to incorporate the usage of data in their decision making makes it very hard to find detailed historical data, as well as the fact that historical data lacks various metrics that are only since recently recorded and would have been useful for the analysis mainly with regards to team performance and match statistics.

Notwithstanding, in order to have a more precise analysis on the data's ability in injury prevention it would have been important to gather information on the latest seasons, and have detailed information about the injuries in order to understand if these were caused due to excess effort (which could therefore be prevented), or due to contact injuries.

As explained above during our discussion, the limitations regarding Transfermarkt market values were notorious, which are not regularly updated and therefore are sometimes not accurate. This was reflected in the analysis regarding player negotiations, when at first sight it seemed that Liverpool F.C. was overpaying since 2012, however, when studying the player evaluation it was possible to conclude that on average these players would increase about 150% in value, suggesting that their market values were below their real value.

## **6. Conclusion**

Nowadays, the usage of data in sports is not only very important, but rather indispensable for coaches, players and managers when shaping a strategy for success. By effectively leveraging on the data, clubs will not only be able to improve their team's performance, but they will also be able to attract a larger fanbase and consequently boost incomes (Zambom-Ferraresi, Rios & Lera-López, 2018).

Throughout out study it was possible to understand that, as expected, after some years of adaptation to the new ownership of the club and the new approach to the club's management,

there seems to be evidence to state that ever since Ian Graham and his team started working for Liverpool F.C. in 2012, the club has managed to gradually improve over the years, both sportingly and financially, even so if such improvements could be influenced by other factors.

The relative underperformance in the first seasons under the ownership of FGS can, in part, be attributed to the inflexibility of the coach Brendan Rogers to adapt to the new data-oriented management of the club, and show us the limitations of data analytics when it is not combined with human expertise (Lichtenthaler, 2020). The arrival of manager Jurgen Klopp in 2015 represents the moment when the club was able to embrace data analytics to its full potential, and since then the results have considerably improved, having helped the club cemented their dominant position in English football again. Such is reflected both through the addition of silverware to the club's museum, as well as an evolution in their financial performance that envies their closest rivals.

Still, football is one of the sports whose reliance on information technology and data science are yet to be exploited to its full potential when compared to other sports who have been doing so for years. Yet, as good and reliable data sources are starting to revolutionize the way football is studied and are becoming more accessible (Raabe & Memmert, 2018), clubs are nowadays starting to understand the added value of this new approach and are slowly adopting new strategies that account for more data-driven insights for decision-making.

With an ever-growing trend for digital technologies, the development and the study of these technologies offer a very exciting prospect for the sport in the years to come, and we might soon see a battle of algorithms, where data analysts become just as decisive as the players on the pitch (Schumaker, Solieman & Chen, 2010), and it is safe to say that Liverpool F.C. is on the forefront of innovation, having paved the way for other clubs to adapt their management towards a data-driven approach.

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## 8. Appendices

### Annex 1: Team performance Liverpool F.C. (Source: Thesis Author)

Season	League Standing LFC	Points Champion	Points LFC	Points LFC/Game	Games Played	Wins	Draws	Losses	Goals Scored	Goals/Game	Goals Conceded	Goals Conceded/Game	Clean Sheets	Clean Sheets/Game	Shooting Accuracy	Passing Accuracy	Big Chances Created	Errors Leading to Goal	
1992/1993*	6	84	59	1,40	42	16	11	15	62	1,48	55	1,31	12	0,29	.	.	.	.	
1993/1994*	8	92	60	1,43	42	17	9	16	59	1,40	55	1,31	9	0,21	.	.	.	.	
1994/1995*	4	89	74	1,76	42	21	11	10	65	1,55	37	0,88	17	0,40	.	.	.	.	
1995/1996*	3	82	71	1,87	38	20	11	7	70	1,84	34	0,89	16	0,42	.	.	.	.	
1996/1997*	4	75	68	1,79	38	19	11	8	62	1,63	37	0,97	12	0,32	.	.	.	.	
1997/1998*	3	78	65	1,71	38	18	11	9	68	1,79	42	1,11	13	0,34	.	.	.	.	
1998/1999*	7	79	54	1,42	38	15	9	14	68	1,79	49	1,29	8	0,21	.	.	.	.	
1999/2000*	4	91	67	1,76	38	19	10	9	51	1,34	30	0,79	15	0,39	.	.	.	.	
2000/2001*	3	80	69	1,82	38	20	9	9	71	1,87	39	1,03	14	0,37	.	.	.	.	
2001/2002*	2	87	80	2,11	38	24	8	6	67	1,76	30	0,79	18	0,47	.	.	.	.	
2002/2003*	5	83	64	1,68	38	18	10	10	61	1,61	41	1,08	14	0,37	.	.	.	.	
2003/2004*	4	90	60	1,58	38	16	12	10	55	1,45	37	0,97	15	0,39	.	.	.	.	
2004/2005*	5	95	58	1,53	38	17	7	14	52	1,37	41	1,08	7	0,18	.	.	.	.	
2005/2006*	3	91	82	2,16	38	25	7	6	57	1,50	25	0,66	22	0,58	.	.	.	.	
2006/2007*	3	89	68	1,79	38	20	8	10	57	1,50	27	0,71	20	0,53	32%	76%	.	.	
2007/2008*	4	87	76	2,00	38	21	13	4	67	1,76	28	0,74	18	0,47	31%	77%	.	.	
2008/2009*	2	90	86	2,26	38	25	11	2	77	2,03	27	0,71	20	0,53	30%	81%	.	.	
2009/2010*	7	86	63	1,66	38	18	9	11	61	1,61	36	0,95	17	0,45	29%	79%	.	.	
Average before Fenway Group acquisition	4,28	86,00	68,00	1,76	38,67	19,39	9,83	9,44	62,78	1,63	37,22	0,96	14,83	0,39	0,31	0,78	.	.	
<b>Fenway Group Acquisition</b>																			
2010/2011	6	80	58	1,53	38	17	7	14	59	1,55	44	1,16	14	0,37	35%	77%	51	4	
2011/2012	8	89	52	1,37	38	14	10	14	47	1,24	40	1,05	12	0,32	31%	81%	60	9	
Average before arrival of data science team	4,55	85,85	66,70	1,73	38,6	19,00	9,70	9,90	61,80	1,60	37,70	0,97	14,65	0,38	0,31	0,79	55,50	6,50	
<b>Arrival of Data Science Team</b>																			
2012/2013	7	89	61	1,61	38	16	13	9	71	1,87	43	1,13	16	0,42	31%	84%	77	10	
2013/2014	2	86	84	2,21	38	26	6	6	101	2,66	50	1,32	10	0,26	40%	84%	88	14	
Average before Jurgen Klopp appointed as manager & with Data Science team	4,50	87,50	72,50	1,91	38	21,00	9,50	7,50	86,00	2,26	46,50	1,22	13,00	0,34	0,36	0,84	82,50	12,00	
<b>Jurgen Klopp appointed as manager</b>																			
2014/2015	6	87	62	1,63	38	18	8	12	52	1,37	48	1,26	14	0,37	33%	83%	38	9	
2015/2016	8	81	60	1,58	38	16	12	10	63	1,66	50	1,32	11	0,29	32%	80%	56	11	
2016/2017	4	93	76	2,00	38	22	10	6	78	2,05	42	1,11	12	0,32	37%	82%	52	10	
2017/2018	4	100	75	1,97	38	21	12	5	84	2,21	38	1,00	17	0,45	37%	84%	78	4	
2018/2019	2	98	97	2,55	38	30	7	1	89	2,34	22	0,58	21	0,55	39%	84%	78	4	
<b>Championship Season</b>																			
2019/2020	1	99	99	2,61	38	32	3	3	85	2,24	33	0,87	15	0,39	39%	84%	88	5	
Average since data science team	4,25	91,63	76,75	2,02	38	22,63	8,88	6,50	77,88	2,05	40,75	1,07	14,50	0,38	0,36	0,83	69,38	8,38	
Average Jurgen Klopp & Data science team	4,17	93,00	78,17	2,06	38	23,17	8,67	6,17	75,17	1,98	38,83	1,02	15,00	0,39	0,36	0,83	65,00	7,17	

Data from: Premier League Official Statistics

Collected on: 20/11/2020

\* Limited Data Available

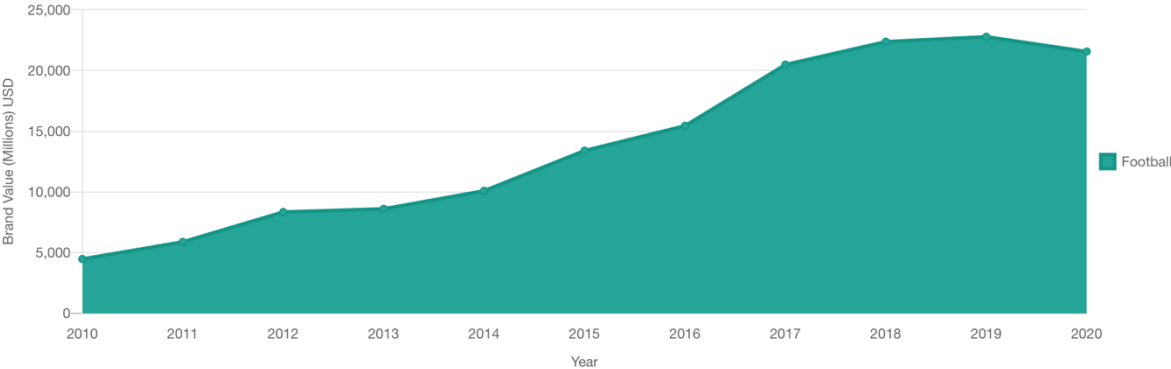
Best Performance

**Annex 2: Brand Value (Source: Brand Finance Football Annual)**



**Annex 3: Football Industry Value Evolution (Source: Brand Finance Football Annual)**

**BRAND VALUE BY SECTOR OVER TIME**



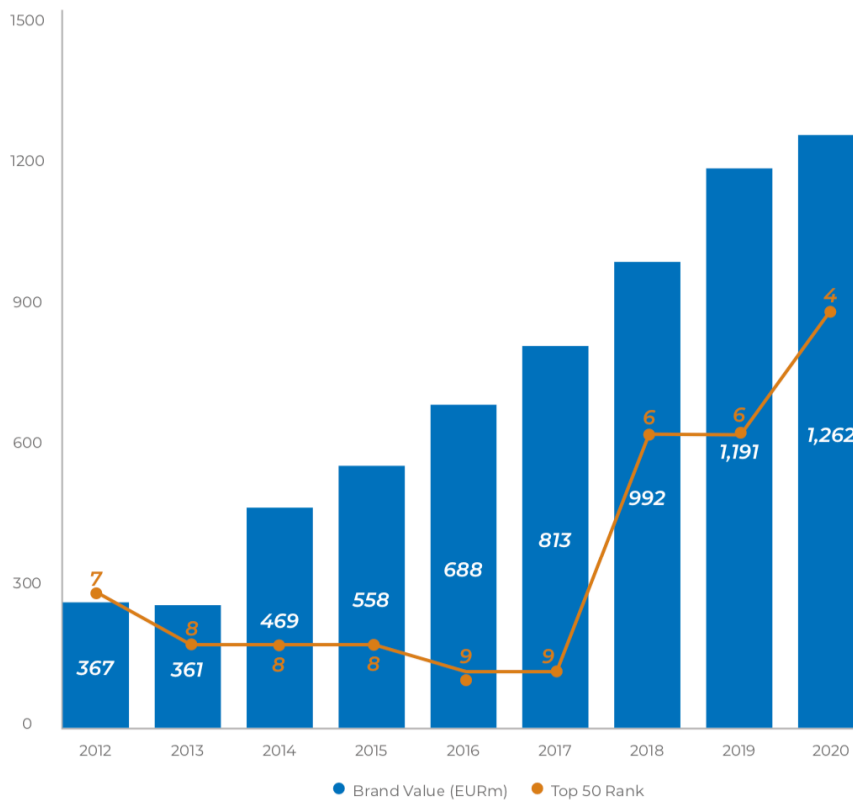
**Annex 4: Brand Value Football Industry (Source: Thesis Author)**

Year	Brand Value Football Industry/ Million €	Change in Brand Value Football Industry
<b>Fenway Group Acquisition</b>		
2010	4474	-
2011	5882	31,47%
<b>Arrival of Data Science Team</b>		
2012	8346	41,89%
2013	8605	3,10%
2014	10092	17,28%
<b>Jurgen Klopp's Arrival</b>		
2015	10157	32,79%
2016	14212	15,25%
2017	18339	32,65%
2018	18446	9,22%
2019	20313	1,81%
2020	19467	-5,36%
<b>Total 2012-2020</b>		<b>158,33%</b>
<b>Total</b>		<b>381,90%</b>

Data from: Brand Finance Football Annual Review  
 Collected on: 25/11/2020

**Annex 5: Brand Value Evolution Liverpool F.C. (Source: Brand Finance Football Annual)**

**LIVERPOOL BRAND VALUE (EURm) AND RANKING**

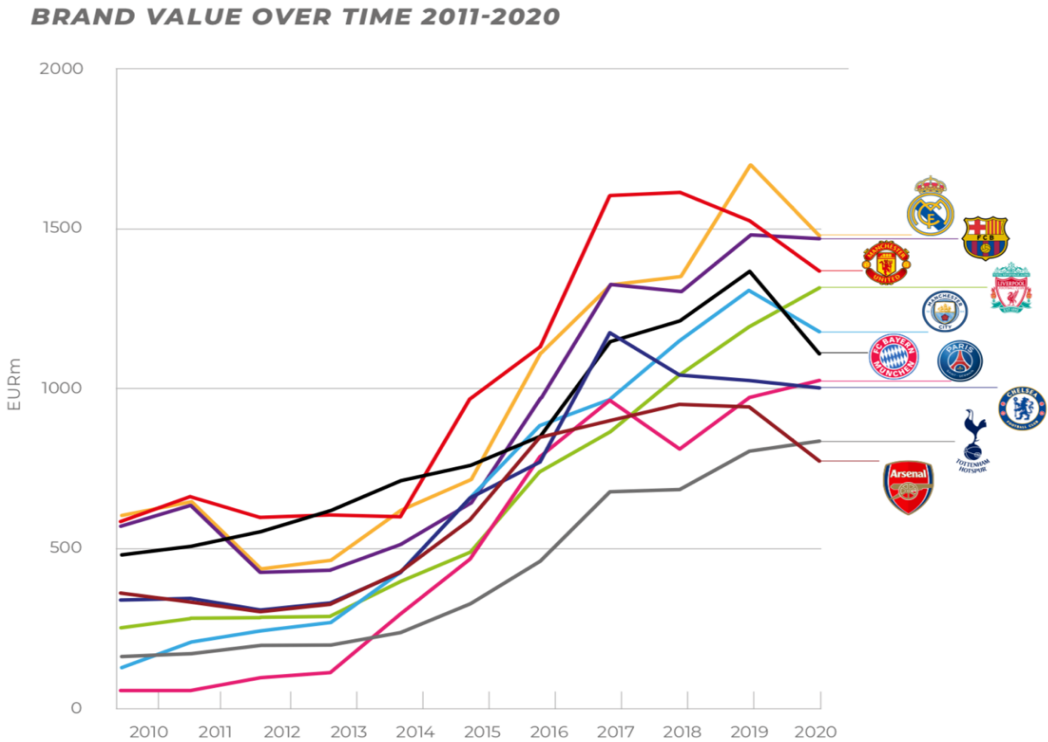


**Annex 6: Brand Value Liverpool F.C. (Source: Thesis Author)**

Year	Brand Value LFC/Million €	Change in Brand Value LFC	Ranking LFC
<b>Fenway Group Acquisition</b>			
2010	191	-	9
2011	250	30,89%	9
<b>Arrival of Data Science Team</b>			
2012	367	46,80%	7
2013	361	-1,63%	8
2014	469	29,92%	8
<b>Jurgen Klopp's Arrival</b>			
2015	437	-6,82%	8
2016	688	57,44%	9
2017	813	18,17%	9
2018	992	22,02%	6
2019	1191	20,06%	6
2020	1262	5,96%	4
<b>Total 2012-2020</b>		<b>243,87%</b>	
<b>Total</b>		<b>560,73%</b>	

Data From: Brand Finance Football Annual Review  
 Collected on: 25/11/2020

**Annex 7: Top 10 Clubs Brand Value Evolution (Source: Brand Finance Football Annual Review)**



## Annex 8: Ranking Brand Value (Source: Brand Finance Annual Review)

**EUR**

2020 Rank	2019 Rank	Brand	Country	2020 Brand Value	Brand Value Change	2019 Brand Value	2020 Enterprise Value	Enterprise Value Change	2019 Enterprise Value
1	1	← Real Madrid CF	Spain	€ 1,419	-13.8%	€ 1,646	€ 4,198	+0.4%	€ 4,179
2	3	↑ FC Barcelona	Spain	€ 1,413	+1.4%	€ 1,393	€ 3,387	-17.9%	€ 4,125
3	2	↓ Manchester United FC	England	€ 1,314	-10.7%	€ 1,472	€ 3,849	-4.8%	€ 4,044
4	6	↑ Liverpool FC	England	€ 1,262	+6.0%	€ 1,191	€ 3,702	+16.2%	€ 3,186
5	5	← Manchester City FC	England	€ 1,124	-10.4%	€ 1,255	€ 2,748	+17.3%	€ 2,342
6	4	↓ FC Bayern Munich	Germany	€ 1,056	-19.6%	€ 1,314	€ 3,329	+4.4%	€ 3,189
7	8	↑ Paris Saint-Germain	France	€ 967	+5.8%	€ 914	€ 3,346	+17.4%	€ 2,850
8	7	↓ Chelsea FC	England	€ 949	-1.9%	€ 968	€ 2,488	-9.9%	€ 2,762
9	10	↑ Tottenham Hotspur FC	England	€ 784	+3.3%	€ 758	€ 2,114	+37.4%	€ 1,538
10	9	↓ Arsenal FC	England	€ 719	-18.8%	€ 885	€ 2,051	-10.1%	€ 2,280

## Annex 9: Ranking Brand Strength (Source: Brand Value Annual Review)

2020 Rank	2019 Rank	Brand	Country	2020 Brand Strength Index (BSI) Score	Brand Strength Change	2019 Brand Strength Index (BSI) Score	2020 Brand Rating	2019 Brand Rating
1	1	← Real Madrid CF	Spain	94.9	-0.5	95.5	AAA+	AAA+
2	2	← FC Barcelona	Spain	93.6	-1.7	95.4	AAA+	AAA+
3	5	↑ Liverpool FC	England	93.2	+2.2	91.0	AAA+	AAA+
4	4	← Manchester United FC	England	91.5	-0.6	92.1	AAA+	AAA+
5	3	↓ FC Bayern Munich	Germany	91.4	-2.1	93.5	AAA+	AAA+
6	8	↑ Chelsea FC	England	89.0	+1.7	87.3	AAA	AAA
7	6	↓ Manchester City FC	England	88.8	+0.2	88.7	AAA	AAA
8	10	↑ Tottenham Hotspur FC	England	87.6	+2.0	85.5	AAA	AAA
9	9	← Juventus FC	Italy	87.0	+0.3	86.8	AAA	AAA
10	7	↓ Arsenal FC	England	86.9	-1.1	88.0	AAA	AAA

**Annex 10: Total Revenues Liverpool F.C. (Source: Thesis Author)**

<b>Year</b>	<b>Total Revenues LFC/ Million €</b>	<b>Change in Revenues</b>	<b>Ranking</b>
2004/2005	181,2		8
2005/2006	176	-2,87%	10
2006/2007	198,9	13,01%	8
2007/2008	210,9	6,03%	7
2008/2009	217	2,89%	7
2009/2010	225,3	3,82%	8
2010/2011	203,3	-9,76%	9
2011/2012	233,2	14,71%	9
<b>Change 2004-2012</b>	-	<b>28,7%</b>	-
<b>Average 2004-2012</b>	<b>205,7</b>	-	-
2012/2013	240,6	3,17%	12
2013/2014	305,9	27,14%	9
2014/2015	391,8	28,08%	9
2015/2016	403,8	3,06%	9
2016/2017	424,2	5,05%	9
2017/2018	513,7	21,10%	7
2018/2019	604,7	17,71%	7
<b>Change 2012-2019</b>	-	<b>151,33%</b>	-
<b>Average 2012-2019</b>	<b>412</b>	-	-
<b>Total Change</b>	-	<b>233,72%</b>	-
<b>Total Average</b>	<b>302</b>	-	-

Data from: Deloitte Football Money League

Collected on: 1/12/2020

Note: Reports prepared on February, therefore report for 2019/2020 season was not available yet



**Annex 11: Broadcasting Revenues Liverpool F.C. (Source: Thesis Author)**

<b>Year</b>	<b>Broadcasting Revenues LFC/Million</b>	<b>% of Total Revenue</b>
2004/2005	75,5	41,67%
2005/2006	72	40,91%
2006/2007	77,5	38,96%
2007/2008	96,4	45,71%
2008/2009	87,6	40,37%
2009/2010	97,1	43,10%
2010/2011	72,3	35,56%
2011/2012	78,2	33,53%
<b>Change 2004-2012</b>	<b>3,58%</b>	<b>-</b>
<b>Average 2004-2012</b>	<b>82</b>	<b>39,98%</b>
2012/2013	74,5	30,96%
2013/2014	120,8	39,49%
2014/2015	163,8	41,81%
2015/2016	168,1	41,63%
2016/2017	182,5	43,02%
2017/2018	251,3	48,92%
2018/2019	299,3	49,50%
<b>Change 2012-2019</b>	<b>301,74%</b>	<b>-</b>
<b>Average 2012-2019</b>	<b>180</b>	<b>42,19%</b>
<b>Total Change</b>	<b>296,42%</b>	<b>-</b>
<b>Total Average</b>	<b>128</b>	<b>41,00%</b>

Data from: Deloitte Football Money League

Collected on: 1/12/2020

Note: Reports prepared on February, therefore report for 2019/2020 season is not available yet

**Annex 12: Matchday Revenues Liverpool F.C. (Source: Thesis Author)**

<b>Year</b>	<b>Average League Attendance LFC</b>	<b>Matchday Revenues LFC/Million</b>	<b>% of Total Revenue</b>
2004/2005	42585	49	27,04%
2005/2006	44236	47,2	26,82%
2006/2007	43561	57,1	28,71%
2007/2008	43532	49,5	23,47%
2008/2009	43611	49,9	23,00%
2009/2010	42864	52,4	23,26%
2010/2011	42824	45,3	22,28%
2011/2012	44253	55,9	23,97%
<b>Change 2004-2012</b>	-	14,08%	-
<b>Average 2004-2012</b>	43433	51	24,82%
2012/2013	44749	52,1	21,65%
2013/2014	44671	61	19,94%
2014/2015	44659	75	19,14%
2015/2016	43910	75,9	18,80%
2016/2017	53016	80,1	18,88%
2017/2018	54049	91,6	17,83%
2018/2019	52983	94,5	15,63%
<b>Change 2012-2019</b>	-	81,38%	-
<b>Average 2012-2019</b>	48291	76	18,84%
<b>Total Change</b>	-	<b>92,86%</b>	-
<b>Total Average</b>	<b>45700</b>	<b>62</b>	<b>22,03%</b>

Data from: Deloitte Football Money League

Collected on: 1/12/2020

Note: Reports prepared on February, therefore report for 2019/2020 season is not available yet

**Annex 13:** Commercial Revenues Liverpool F.C. (Source: Thesis Author)

<b>Year</b>	<b>Commercial Revenues LFC/Million</b>	<b>% of Total Revenue</b>
2004/2005	56,7	31,29%
2005/2006	56,8	32,27%
2006/2007	64,3	32,33%
2007/2008	65	30,82%
2008/2009	79,5	36,64%
2009/2010	75,8	33,64%
2010/2011	85,7	42,15%
2011/2012	99,1	42,50%
<b>Change 2004-2012</b>	<b>74,78%</b>	<b>-</b>
<b>Average 2004-2012</b>	<b>73</b>	<b>35,21%</b>
2012/2013	114	47,38%
2013/2014	124,1	40,57%
2014/2015	153	39,05%
2015/2016	159,8	39,57%
2016/2017	161,6	38,10%
2017/2018	170,8	33,25%
2018/2019	210,9	34,88%
<b>Change 2012-2019</b>	<b>85,00%</b>	<b>-</b>
<b>Average 2012-2019</b>	<b>156</b>	<b>38,97%</b>
<b>Total Change</b>	<b>271,96%</b>	<b>-</b>
<b>Total Average</b>	<b>112</b>	<b>36,96%</b>

Data from: Deloitte Football Money League

Collected on: 1/12/2020

Note: Reports prepared on February, therefore report for 2019/2020 season is not available yet

**Annex 14: Social Media Liverpool F.C. (Source: Thesis Author)**

Year	Facebook			Instagram			Twitter			Youtube
	Likes LFC/ Million	New Fans	Rank	Followers LFC/ Million	New Fans	Rank	Followers LFC/ Million	New Fans	Rank	Subscribers LFC/ Million
2013	14,7		7				2,3		7	
2014	24,9	-	6	-	-	-	3,8	-	6	-
2015	27	2,1	6	2,3	-	8	5,2	1,4	5	-
2016	29,5	2,5	7	3,7	1,4	10	6,6	1,4	6	-
2017	30,5	1	9	5,3	1,6	10	9,5	2,9	6	-
2018	32,4	1,9	10	11,5	6,2	9	10,9	1,4	6	-
2019	35,8	3,4	10	22,7	11,2	6	13,4	2,5	6	3,9
<b>Total Change</b>	<b>143,54%</b>	-	-	<b>886,96%</b>	-	-	<b>482,61%</b>	-	-	-

Data from: Deloitte Football Money League

Collected on: 01/12/2020

Note: Reports prepared on February, therefore report for 2019/2020 season is not available yet

**Annex 15: Injuries Liverpool F.C. (Source: Thesis Author)**

Season	Number of Injuries LFC	Number of Competitive Games	Injuries per game	Total Playing Time Lost/ Months
2009/2010	28	56	0,5	42
2010/2011	20	52	0,385	40,5
2011/2012	18	51	0,353	28,5
2012/2013	21	54	0,389	51
2013/2014	23	43	0,535	39,5
2014/2015	33	58	0,569	66
2015/2016	31	63	0,492	62
2016/2017	30	47	0,638	38

Data from: This is Anfield (website)

Collected on: 27/11/2020

## Annex 16: Player Performance Liverpool F.C. (Source: Thesis Author)

Name	Position	Season Bought	Team Before Joining LFC					Liverpool Football Club				
			Games	Minutes	Goals	Assists	Goal Contributions/min	Games	Minutes	Goals	Assists	Goal Contributions/min
Diogo Jota	LW/ST	2020/2021	131	9362	44	19	0,007	11	590	7	0	0,012
Takumi Minamino	LW	2019/2020	199	11891	64	44	0,009	23	850	3	1	0,005
Xherdan Shaqiri	RW	2018/2019	92	7155	15	15	0,004	46	1922	8	6	0,007
Mohamed Salah	RW	2017/2018	83	6587	34	22	0,009	165	13573	104	42	0,011
Dominic Solanke	ST	2017/2018	1	17	0	0	0,000	27	726	1	1	0,003
Sadio Mané	LW	2016/2017	75	5393	25	14	0,007	181	14826	86	38	0,008
Christian Benteke	ST	2015/2016	101	8414	49	12	0,007	42	2202	10	6	0,007
Roberto Firmino	ST	2015/2016	153	12164	49	36	0,007	256	19105	79	62	0,007
Danny Ings	ST	2015/2016	130	9752	43	14	0,006	25	947	4	1	0,005
Lazar Markovic	RW/LW	2014/2015	49	2864	7	5	0,004	34	1880	3	1	0,002
Mario Balotelli	ST	2014/2015	77	5300	33	9	0,008	28	1510	4	0	0,003
Divock Origi	ST/LW/RW	2014/2015	89	4691	16	5	0,004	143	5993	35	13	0,008
Rickie Lambert	ST	2014/2015	230	18988	115	64	0,009	36	1244	3	2	0,004
Iago Aspas	ST	2013/2014	355	25067	157	36	0,008	15	468	1	1	0,004
Daniel Sturridge	ST	2012/2013	96	4535	24	9	0,007	160	9341	68	26	0,010
Fabio Borini	LW	2012/2013	26	1744	10	0	0,006	38	1597	3	3	0,004
Phillipe Coutinho	LW/CAM	2012/2013	47	2304	5	4	0,004	201	14877	54	45	0,007
Oussama Assaidi	LW	2012/2013	93	6661	22	25	0,007	12	583	0	1	0,002
Sam Yesil	ST	2012/2013	1	9	0	0	0,000	2	126	0	0	0,000
Craig Bellamy	LW	2011/2012	51	3829	15	15	0,008	79	4485	18	14	0,007
Andy Carroll	ST	2010/2011	121	6609	33	26	0,009	58	3493	11	6	0,005
Luis Suárez	ST	2010/2011	159	13336	111	68	0,013	133	11324	82	47	0,011
Milan Jovanovic	LW	2010/2011	153	12069	69	28	0,008	18	1082	2	2	0,004
Joe Cole	LW/CAM	2010/2011	281	16444	40	42	0,005	42	2108	5	3	0,004
Maxi Rodríguez	LW	2009/2010	156	11178	44	18	0,006	73	5063	17	7	0,005
Albert Riera	LW	2008/2009	93	6294	12	6	0,003	56	3534	5	9	0,004
David N'Gog	ST	2008/2009	24	1061	3	1	0,004	94	4269	19	6	0,006
Fernando Torres	ST	2007/2008	351	23901	121	16	0,006	142	10943	81	20	0,009
Ryan Babel	LW/ST	2007/2008	142	9090	30	20	0,006	146	6662	22	18	0,006
Yossi Benayoun	RW	2007/2008	78	6074	8	5	0,002	134	7966	29	19	0,006
Andriy Voronin	ST	2007/2008	119	8128	37	21	0,007	40	1948	6	5	0,006
Dirk Kuyt	RW	2006/2007	195	16714	118	58	0,011	285	21640	71	40	0,005
Jermaine Pennant	RW	2006/2007	14	854	0	3	0,004	81	4873	3	18	0,004
Peter Crouch	ST	2005/2006	31	2211	15	0	0,007	134	7811	42	15	0,007
Mark González	LW	2005/2006	25	1454	5	0	0,003	36	1635	3	0	0,002
Fernando Morientes	ST	2004/2005	272	15409	100	31	0,009	61	4113	12	1	0,003

Data from: Transfermarkt  
Collected on: 15/11/2020

## Annex 17: Player Negotiations: Purchases Liverpool F.C. (Source: Thesis Author)

Name	Transfer Price/ M€	Market Value when bought/ M€	Gain Loss in Purchase/ M€	Season Bought
Diogo Jota	45	28	-17	2020/2021
Thiago Alcántara	22	48	26	2020/2021
Konstantinos Tsimikas	13	9	-4	2020/2021
Adrián	0	3,5	3,5	2019/2020
Sepp Van den Berg	1,9	2	0,1	2019/2020
Takumi Minamino	8,5	12,5	4	2019/2020
Alisson Becker	62,5	60	-2,5	2018/2019
Fabinho	45	45	0	2018/2019
Xherdan Shaqiri	14,7	18	3,3	2018/2019
Naby Keita	60	65	5	2018/2019
Andrew Robertson	9	7	-2	2017/2018
Dominic Solanke	0	2	2	2017/2018
Mohamed Salah	42	35	-7	2017/2018
Virgil Van Dijk	84,65	30	-54,65	2017/2018
Alex Oxlade-Chamberlain	38	22	-16	2017/2018
Sadio Mané	41,2	20	-21,2	2016/2017
Giorginio Wijnaldum	27,5	20	-7,5	2016/2017
Joel Matip	0	18	18	2016/2017
Ragnar Klavan	5	3,5	-1,5	2016/2017
Loris Karius	6,2	7	0,8	2016/2017
Joe Gomez	4,9	2,5	-2,4	2015/2016
Marko Grujic	7	3	-4	2015/2016
Roberto Firmino	41	25	-16	2015/2016
Christian Benteke	46,5	20	-26,5	2015/2016
Danny Ings	8,3	12	3,7	2015/2016
Nathaniel Clyne	17,7	17	-0,7	2015/2016
James Milner	0	14	14	2015/2016
Divock Origi	12,63	1	-11,63	2014/2015
Emre Can	12	7,5	-4,5	2014/2015
Adam Lallana	31	7,5	-23,5	2014/2015
Dejan Lovren	25,3	12	-13,3	2014/2015
Rickie Lambert	5,5	5	-0,5	2014/2015
Alberto Moreno	18	15	-3	2014/2015
Lazar Markovic	25	10	-15	2014/2015
Mario Balotelli	20	27	7	2014/2015
Tiago Ilori	7,5	1,5	-6	2013/2014
Simon Mignolet	10,6	5,5	-5,1	2013/2014

Mamadou Sakho	19	15	-4 2013/2014
Luis Alberto	8	5	-3 2013/2014
Iago Aspas	10,8	9	-1,8 2013/2014
<b>Kolo Touré</b>	<b>0</b>	<b>6</b>	<b>6 2013/2014</b>
Philippe Coutinho	13	9	-4 2012/2013
Joe Allen	19	4	-15 2012/2013
Sam Yesil	1,3	0,6	-0,7 2012/2013
<b>Daniel Sturridge</b>	<b>15</b>	<b>16</b>	<b>1 2012/2013</b>
Fabio Borini	13,3	9	-4,3 2012/2013
<b>Oussama Assaïdi</b>	<b>4</b>	<b>7</b>	<b>3 2012/2013</b>
<b>Total 2012-2021</b>	<b>922,48</b>	<b>721,6</b>	<b>-200,88 -</b>
<b>Average 2012-2020</b>	<b>19,63</b>	<b>15,35</b>	<b>-4,27 -</b>
Jordan Henderson	18	8,5	-9,5 2011/2012
Charlie Adam	8,4	4,5	-3,9 2011/2012
<b>Doni</b>	<b>0</b>	<b>0,5</b>	<b>0,5 2011/2012</b>
Sebastián Coates	8	2,5	-5,5 2011/2012
<b>Craig Bellamy</b>	<b>0</b>	<b>4</b>	<b>4 2011/2012</b>
Stewart Downing	22,8	12	-10,8 2011/2012
José Enrique	8	7,5	-0,5 2011/2012
Jonjo Shelvey	2	0,95	-1,05 2010/2011
Andy Carroll	41	2,5	-38,5 2010/2011
Luis Suárez	26,5	25	-1,5 2010/2011
Danny Wilson	2,75	1	-1,75 2010/2011
Raúl Meireles	13	11	-2 2010/2011
Paul Konchesky	4,2	4	-0,2 2010/2011
<b>Milan Jovanovic</b>	<b>0</b>	<b>8,5</b>	<b>8,5 2010/2011</b>
Brad Jones	2,8	1,5	-1,3 2010/2011
<b>Christian Poulsen</b>	<b>5,48</b>	<b>5,5</b>	<b>0,02 2010/2011</b>
<b>Joe Cole</b>	<b>0</b>	<b>21</b>	<b>21 2010/2011</b>
Glen Johnson	20,5	11	-9,5 2009/2010
Alberto Aquilani	20	15	-5 2009/2010
<b>Sotiris Kyrgiakos</b>	<b>3</b>	<b>6,5</b>	<b>3,5 2009/2010</b>
<b>Maxi Rodríguez</b>	<b>0</b>	<b>18</b>	<b>18 2009/2010</b>
David N'Gog	1,5	1	-0,5 2008/2009
Diego Cavalieri	4,4	1,2	-3,2 2008/2009
<b>Albert Riera</b>	<b>9,8</b>	<b>12</b>	<b>2,2 2008/2009</b>
Andrea Dossena	9	6,5	-2,5 2008/2009
<b>Philipp Degen</b>	<b>0</b>	<b>2,5</b>	<b>2,5 2008/2009</b>
Yossi Benayoun	7,3	4,5	-2,8 2007/2008
Javier Mascherano	22,5	12	-10,5 2007/2008
Fernando Torres	38	30	-8 2007/2008
Ryan Babel	17,25	5	-12,25 2007/2008
Lucas Leiva	10	6	-4 2007/2008
Martin Skrtel	10	8,5	-1,5 2007/2008
<b>Andriy Voronin</b>	<b>0</b>	<b>7</b>	<b>7 2007/2008</b>
<b>Charles Itandje</b>	<b>1,5</b>	<b>4,5</b>	<b>3 2007/2008</b>
Álvaro Arbeloa	3,9	1,3	-2,6 2006/2007
Jermaine Pennant	9,1	5,5	-3,6 2006/2007
Dirk Kuyt	18	17,5	-0,5 2006/2007
<b>Fábio Aurélio</b>	<b>0</b>	<b>7</b>	<b>7 2006/2007</b>
Mark González	2,5	1,5	-1 2005/2006
Mohamed Sissoko	12	4	-8 2005/2006
Pepe Reina	9,8	4,5	-5,3 2005/2006
Peter Crouch	10,5	10,5	0 2005/2006
<b>Fernando Morientes</b>	<b>9,25</b>	<b>15</b>	<b>5,75 2004/2005</b>
<b>Total 2004-2012</b>	<b>412,73</b>	<b>338,45</b>	<b>-74,28 -</b>
<b>Average 2004-2012</b>	<b>9,60</b>	<b>7,87</b>	<b>-1,73 -</b>
<b>Total</b>	<b>1335,21</b>	<b>1060,05</b>	<b>-275,16 -</b>
<b>Average</b>	<b>14,84</b>	<b>11,78</b>	<b>-3,06 -</b>

Data from: Transfermarkt  
Collected on: 15/11/2020

## Annex 18: Player Negotiations: Sales Liverpool F.C. (Source: Thesis Author)

Name	Sales Price/ M€	MV at Sale/ M€	Gain Loss Sale/ M€	Season Sold
Nathaniel Clyne	0	8	-8	2020/2021
Adam Lallana	0	9,5	-9,5	2020/2021
Dejan Lovren	12	12	0	2020/2021
<b>Danny Ings</b>	<b>22,2</b>	<b>15</b>	<b>7,2</b>	<b>2019/2020</b>
Alberto Moreno	0	9	-9	2019/2020
Simon Mignolet	7	8	-1	2019/2020
Daniel Sturridge	0	15	-15	2019/2020
<b>Dominic Solanke</b>	<b>21,2</b>	<b>10</b>	<b>11,2</b>	<b>2018/2019</b>
Ragnar Klavan	1,52	3,5	-1,98	2018/2019
Lazar Markovic	0	5	-5	2018/2019
Emre Can	0	30	-30	2018/2019
<b>Mamadou Sakho</b>	<b>28,2</b>	<b>15</b>	<b>13,2</b>	<b>2017/2018</b>
<b>Philippe Coutinho</b>	<b>145</b>	<b>90</b>	<b>55</b>	<b>2017/2018</b>
Lucas Leiva	5,7	7	-1,3	2017/2018
<b>Christian Benteke</b>	<b>31,2</b>	<b>27</b>	<b>4,2</b>	<b>2016/2017</b>
Mario Balotelli	0	6	-6	2016/2017
Luis Alberto	4	4	0	2016/2017
<b>Tiago Ilori</b>	<b>4,3</b>	<b>3</b>	<b>1,3</b>	<b>2016/2017</b>

Kolo Touré	0	2	-2 2016/2017
<b>Joe Allen</b>	<b>15,5</b>	<b>8</b>	<b>7,5 2016/2017</b>
Sam Yesil	0	0,7	-0,7 2016/2017
Martin Skrtel	6	8	-2 2016/2017
<b>Rickie Lambert</b>	<b>4,2</b>	<b>3</b>	<b>1,2 2015/2016</b>
<b>Iago Aspas</b>	<b>6</b>	<b>4</b>	<b>2 2015/2016</b>
<b>Fabio Borini</b>	<b>10,7</b>	<b>7</b>	<b>3,7 2015/2016</b>
<b>Sebastián Coates</b>	<b>2,8</b>	<b>2,5</b>	<b>0,3 2015/2016</b>
José Enrique	0	1,5	-1,5 2015/2016
Brad Jones	0	1	-1 2015/2016
Glen Johnson	0	7	-7 2015/2016
<b>Oussama Assaidi</b>	<b>6</b>	<b>5</b>	<b>1 2014/2015</b>
<b>Luis Suárez</b>	<b>81,72</b>	<b>52</b>	<b>29,72 2014/2015</b>
Pepe Reina	3	9	-6 2014/2015
Stewart Downing	5,8	8,5	-2,7 2013/2014
<b>Andy Carroll</b>	<b>17,5</b>	<b>11</b>	<b>6,5 2013/2014</b>
Danny Wilson	0	1,5	-1,5 2013/2014
<b>Jonjo Shelvey</b>	<b>5,8</b>	<b>5,5</b>	<b>0,3 2013/2014</b>
Charlie Adam	6,2	8	-1,8 2012/2013
Craig Bellamy	0	3	-3 2012/2013
Doni	0	0,5	-0,5 2012/2013
Joe Cole	0	7,5	-7,5 2012/2013
Alberto Aquilani	2	9	-7 2012/2013
Maxi Rodríguez	0	3,5	-3,5 2012/2013
Dirk Kuyt	1	4,5	-3,5 2012/2013
<b>Total 2012-2020</b>	<b>456,54</b>	<b>450,2</b>	<b>6,34 -</b>
<b>Average 2012-2020</b>	<b>10,62</b>	<b>10,47</b>	<b>0,15 -</b>
Raúl Meireles	13,5	16	-2,5 2011/2012
Christian Poulsen	0	3	-3 2011/2012
Paul Konchesky	1,7	4	-2,3 2011/2012
Milan Jovanovic	0,8	7	-6,2 2011/2012
Sotiris Kyrgiakos	0	1,5	-1,5 2011/2012
David N'Gog	4,5	4,5	0 2011/2012
Philipp Degen	0	0,75	-0,75 2011/2012
Fábio Aurélio	0	1,5	-1,5 2011/2012
Albert Riera	6	14	-8 2010/2011
Diego Cavalieri	0	2	-2 2010/2011
<b>Fernando Torres</b>	<b>58,5</b>	<b>50</b>	<b>8,5 2010/2011</b>
Javier Mascherano	20	26	-6 2010/2011
<b>Ryan Babel</b>	<b>7</b>	<b>6,5</b>	<b>0,5 2010/2011</b>
Yossi Benayoun	7	10,5	-3,5 2010/2011
Charles Itandje	0	1,25	-1,25 2010/2011
Andrea Dossena	3,75	6	-2,25 2009/2010
Andriy Voronin	2	6	-4 2009/2010
Jermaine Pennant	0	5,7	-5,7 2009/2010
Álvaro Arbeloa	4	11	-7 2009/2010
<b>Peter Crouch</b>	<b>13,7</b>	<b>9,5</b>	<b>4,2 2008/2009</b>
<b>Mohamed Sissoko</b>	<b>11</b>	<b>9</b>	<b>2 2007/2008</b>
<b>Mark González</b>	<b>6</b>	<b>3,5</b>	<b>2,5 2007/2008</b>
Fernando Morientes	5	10	-5 2006/2007
<b>Total 2004-2012</b>	<b>164,45</b>	<b>209,2</b>	<b>-44,75 -</b>
<b>Average 2004-2012</b>	<b>7,15</b>	<b>9,10</b>	<b>-1,95 -</b>
<b>Total</b>	<b>620,99</b>	<b>659,4</b>	<b>-38,41 -</b>
<b>Total Average</b>	<b>9,41</b>	<b>9,99</b>	<b>-0,58 -</b>

Data from: Transfermarkt  
Collected on: 15/11/2020

## Annex 19: Player Value Evolution Liverpool F.C. (Source: Thesis Author)

Name	Transfer Price/ M€	Market Value when bought/ M€	MKT Value % Change in LFC	Season Bought
<b>Diogo Jota</b>	<b>45</b>	<b>28</b>	<b>42,9</b>	<b>2020/2021</b>
Thiago Alcántara	22	48	0	2020/2021
Konstantinos Tsimikas	13	9	0	2020/2021
Takumi Minamino	8,5	12,5	-20	2019/2020
Sepp Van den Berg	1,9	2	-10	2019/2020
<b>Adrián</b>	<b>0</b>	<b>3,5</b>	<b>14,3</b>	<b>2019/2020</b>
<b>Alisson Becker</b>	<b>62,5</b>	<b>60</b>	<b>33,3</b>	<b>2018/2019</b>
Naby Keita	60	65	-38,5	2018/2019
<b>Fabinho</b>	<b>45</b>	<b>45</b>	<b>33,3</b>	<b>2018/2019</b>
Xherdan Shaqiri	14,7	18	-11,1	2018/2019
<b>Virgil Van Dijk</b>	<b>84,65</b>	<b>30</b>	<b>166,7</b>	<b>2017/2018</b>
<b>Mohamed Salah</b>	<b>42</b>	<b>35</b>	<b>242,9</b>	<b>2017/2018</b>
<b>Alex Oxlade-Chamberlain</b>	<b>38</b>	<b>22</b>	<b>9,1</b>	<b>2017/2018</b>
<b>Andrew Robertson</b>	<b>9</b>	<b>7</b>	<b>971,4</b>	<b>2017/2018</b>
<b>Dominic Solanke</b>	<b>0</b>	<b>2</b>	<b>400</b>	<b>2017/2018</b>
<b>Sadio Mané</b>	<b>41,2</b>	<b>20</b>	<b>500</b>	<b>2016/2017</b>
<b>Georginio Wijnaldum</b>	<b>27,5</b>	<b>20</b>	<b>100</b>	<b>2016/2017</b>
Loris Karius	6,2	7	-54,3	2016/2017
Ragnar Klavan	5	3,5	0	2016/2017
<b>Joel Matip</b>	<b>0</b>	<b>18</b>	<b>77,8</b>	<b>2016/2017</b>
<b>Christian Benteke</b>	<b>46,5</b>	<b>20</b>	<b>35</b>	<b>2015/2016</b>
<b>Roberto Firmino</b>	<b>41</b>	<b>25</b>	<b>188</b>	<b>2015/2016</b>
Nathaniel Clyne	17,7	17	-52,9	2015/2016
<b>Danny Ings</b>	<b>8,3</b>	<b>12</b>	<b>25</b>	<b>2015/2016</b>
<b>Marko Grujic</b>	<b>7</b>	<b>3</b>	<b>383,3</b>	<b>2015/2016</b>
<b>Joe Gomez</b>	<b>4,9</b>	<b>2,5</b>	<b>1500</b>	<b>2015/2016</b>
James Milner	0	14	-64,3	2015/2016
<b>Adam Lallana</b>	<b>31</b>	<b>7,5</b>	<b>26,7</b>	<b>2014/2015</b>
Dejan Lovren	25,3	12	0	2014/2015
Lazar Markovic	25	10	-50	2014/2015
Mario Balotelli	20	27	-77,8	2014/2015
Alberto Moreno	18	15	-40	2014/2015
<b>Divock Origi</b>	<b>12,63</b>	<b>1</b>	<b>1500</b>	<b>2014/2015</b>
<b>Emre Can</b>	<b>12</b>	<b>7,5</b>	<b>300</b>	<b>2014/2015</b>
Rickie Lambert	5,5	5	-40	2014/2015
Mamadou Sakho	19	15	0	2013/2014
Iago Aspas	10,8	9	-55,6	2013/2014
<b>Simon Mignolet</b>	<b>10,6</b>	<b>5,5</b>	<b>45,5</b>	<b>2013/2014</b>
Luis Alberto	8	5	-20	2013/2014
<b>Tiago Ilori</b>	<b>7,5</b>	<b>1,5</b>	<b>100</b>	<b>2013/2014</b>
Kolo Touré	0	6	-66,7	2013/2014
<b>Joe Allen</b>	<b>19</b>	<b>4</b>	<b>100</b>	<b>2012/2013</b>
Daniel Sturridge	15	16	-6,3	2012/2013
Fabio Borini	13,3	9	-22,2	2012/2013
<b>Philippe Coutinho</b>	<b>13</b>	<b>9</b>	<b>900</b>	<b>2012/2013</b>
Oussama Assaidi	4	7	-28,6	2012/2013
<b>Sam Yešil</b>	<b>1,3</b>	<b>0,6</b>	<b>16,7</b>	<b>2012/2013</b>
<b>Total 2012 - 2020</b>	<b>922,5</b>	<b>721,6</b>	<b>-</b>	<b>-</b>
<b>Average 2012-2020</b>	<b>19,6</b>	<b>15,4</b>	<b>150,1</b>	<b>-</b>
Stewart Downing	22,8	12	-29,2	2011/2012
<b>Jordan Henderson</b>	<b>18</b>	<b>8,5</b>	<b>229,4</b>	<b>2011/2012</b>
<b>Charlie Adam</b>	<b>8,4</b>	<b>4,5</b>	<b>77,8</b>	<b>2011/2012</b>
Sebastián Coates	8	2,5	0	2011/2012
José Enrique	8	7,5	-80	2011/2012
Craig Bellamy	0	4	-25	2011/2012
Doni	0	0,5	0	2011/2012
<b>Andy Carroll</b>	<b>41</b>	<b>2,5</b>	<b>340</b>	<b>2010/2011</b>
<b>Luis Suárez</b>	<b>26,5</b>	<b>25</b>	<b>108</b>	<b>2010/2011</b>
<b>Raúl Meireles</b>	<b>13</b>	<b>11</b>	<b>45,5</b>	<b>2010/2011</b>
Christian Poulsen	5,48	5,5	-45,5	2010/2011
Paul Konchesky	4,2	4	0	2010/2011
Brad Jones	2,8	1,5	-33,3	2010/2011
<b>Danny Wilson</b>	<b>2,75</b>	<b>1</b>	<b>50</b>	<b>2010/2011</b>
<b>Jonjo Shelvey</b>	<b>2</b>	<b>0,95</b>	<b>478,9</b>	<b>2010/2011</b>
Milan Jovanovic	0	8,5	-17,6	2010/2011
Joe Cole	0	21	-64,3	2010/2011
Glen Johnson	20,5	11	-36,4	2009/2010
Alberto Aquilani	20	15	-40	2009/2010
Sotiris Kyrgiakos	3	6,5	-76,9	2009/2010
Maxi Rodríguez	0	18	-80,6	2009/2010
<b>Albert Riera</b>	<b>9,8</b>	<b>12</b>	<b>16,7</b>	<b>2008/2009</b>
Andrea Dossena	9	6,5	-7,7	2008/2009
<b>Diego Cavallieri</b>	<b>4,4</b>	<b>1,2</b>	<b>66,7</b>	<b>2008/2009</b>
<b>David N'Gog</b>	<b>1,5</b>	<b>1</b>	<b>350</b>	<b>2008/2009</b>
Philipp Degen	0	2,5	-70	2008/2009
<b>Fernando Torres</b>	<b>38</b>	<b>30</b>	<b>66,7</b>	<b>2007/2008</b>
<b>Javier Mascherano</b>	<b>22,5</b>	<b>12</b>	<b>116,7</b>	<b>2007/2008</b>
<b>Ryan Babel</b>	<b>17,25</b>	<b>5</b>	<b>30</b>	<b>2007/2008</b>
Martin Škrtel	10	8,5	-5,9	2007/2008
<b>Lucas Leiva</b>	<b>10</b>	<b>6</b>	<b>16,7</b>	<b>2007/2008</b>
<b>Yossi Benayoun</b>	<b>7,3</b>	<b>4,5</b>	<b>133,3</b>	<b>2007/2008</b>



Charles Itandje	1,5	4,5	-72,2 2007/2008
Andriy Voronin	0	7	-14,3 2007/2008
Dirk Kuyt	18	17,5	-74,3 2006/2007
<b>Jermaine Pennant</b>	<b>9,1</b>	<b>5,5</b>	<b>3,6 2006/2007</b>
<b>Álvaro Arbeloa</b>	<b>3,9</b>	<b>1,3</b>	<b>746,2 2006/2007</b>
Gabriel Paletta	2,7	3	-23,3 2006/2007
Fábio Aurélio	0	7	-78,6 2006/2007
<b>Mohamed Sissoko</b>	<b>12</b>	<b>4</b>	<b>125 2005/2006</b>
Peter Crouch	10,5	10,5	-9,5 2005/2006
<b>Pepe Reina</b>	<b>9,8</b>	<b>4,5</b>	<b>100 2005/2006</b>
<b>Mark González</b>	<b>2,5</b>	<b>1,5</b>	<b>133,3 2005/2006</b>
Fernando Morientes	9,25	15	-33,3 2004/2005
<b>Total 2004-2012</b>	<b>415,4</b>	<b>341,5</b>	<b>- -</b>
<b>Average 2004-2012</b>	<b>9,4</b>	<b>7,8</b>	<b>52,7 -</b>
<b>Total</b>	<b>1337,9</b>	<b>1063,1</b>	<b>- -</b>
<b>Total Average</b>	<b>14,7</b>	<b>11,7</b>	<b>- -</b>

Data from: Transfermarkt  
Collected on: 15/11/2020