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THE BEES: HOW DATA ANALYTICS CAN CHANGE THE WAY VALUE IS PERCEIVED AND MAXIMIZED

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Abstract: This paper attempts to lift the veil on the refreshing Data Analytics methods used by Brentford FC, a modest Football club based out of London, with the purpose of Outsmarting competition with bigger credentials and resources. The Bees, as they are also known for, have in the last years worked to find Undervalued players and Maximize their value both in and out of the pitch in order to incrementally increase the level of the club. With Matthew Benham as the owner, a man who made his fortune from analytical sporting gambling, the sky seems to be the limit.

Keywords: Football, Data Analytics, Outsmart, Undervalued, Maximize Value

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The Bees: How Data Analytics Can Change the Way Value is Perceived and Maximized

I. The Football Industry

On the 30th of November 1872 at Hamilton Crescent – in Partick, Glasgow – the referee blew the final whistle that settled a 0-0 draw between Scotland and England, in what was the first ever international Association Football match (Mitchell 2014). Despite enduring a goalless game, the spectators left it with the conviction that they could hardly had spent the £0.05 of their admission ticket any better.

You would be wrong to assume that this was one of the first manifestations of Football. As the earliest known forms of informal or regulated games in which balls were kicked around trace back to the Han Dynasty in China, somewhere around 50-130 AD (Walvin 2014, 5). Since that time, Football evolved immensely becoming a universal denominator of social behaviour and a tool of recreation for billions of people around the globe.

Despite not being one of the first recognizable manifestations of Football, what happen on that rainy Saturday in Scotland, back in 1872, was one of the first steps in the establishment of Football industry as we know it. The organisational efforts behind the contest, the adoption of a clear set of rules and the monetization of the game through tickets were the primary changes needed to industrialize the game of Football.

Almost a century and a half later, Football is now a multi-billion-dollar global industry and it is not by chance that Football is also declared the "People's game". In Europe alone, by the end of the 2018/19 season, the professional Football market size was estimated at around €28.9 billion (Deloitte 2020, 8) having almost doubled in the last decade [Exhibit 1]. As the value and revenues in Football grew larger, so did the rewards for the winners of the competitions. Thus, the competition levels fiercely intensified in the last years, with teams not wanting to miss out on the top spots of the competitions. The investments made by Football clubs abruptly sky-rocketed [Exhibit 2] with transfers fees of approximately €6.6 billion being paid by the teams

from the leading five football leagues in Europe (CIES Football Observatory 2020, 2), also known as the 'Big Five' - these include The Premier League in England, La Liga in Spain, the Bundesliga in Germany, Serie A in Italy, and Ligue 1 in France.

Winning in the pitch is vital for any club's success and to accomplish that having the best players in your squad is seen as crucial. That has translated into an ever-increasing willingness of Football clubs to open their purses and pay whatever it takes to get the best footballers possible. For example, at the turn of the century in the year 2000, the Portuguese forward Luís Figo became the world record highest transfer fee at the time when he made the newspapers' covers world-wide with his mediatic move from FC Barcelona to the arch-rival Real Madrid CF for a fee of €62 million (Independent 2000). Today this value seems tiny when compared to the €222 million that Paris Saint-Germain FC paid FC Barcelona to get the Brazilian star Neymar Jr in the summer of 2017 (BBC Sport 2017). Moreover, from the current top-10 biggest transfers fees of all time not one is below the €100 million mark [Exhibit 3] and we can narrow it down to just six clubs those responsible for paying such record amounts.

According to the *Fédération Internationale de Football Association* – the highest governing body in Football and better known as FIFA – from all the 18,041 international player transfers registered worldwide, only 176 of them – barely 1% – were made by a value superior to 10 million USD (FIFA 2019, 13). In addition, 85% of the total international player transfers did not involve any transfer fee, meaning that all of the international transfers fees recorded were generated by just 15% of the total transfers [Exhibit 4].

Meanwhile, concerns about the financial instability of the vast majority of Football clubs grew larger. It does not come as a surprise that as the reward for victory increases, so does the appetite for it and that appetite comes at a cost in an ever-so inflated market, with many clubs running into long term deficits and some even filing for bankruptcy. As Peter Sloane once alluded in one of his many famous academic researches: "What sports club owners do is: they maximise

utility not profit. They want sporting success, therefore they overspend." (House of Commons 2011).

The Football governing body in Europe, UEFA – *Union of European Football Associations* – acknowledged those concerns over the plague of financial distress in Football. The UEFA president at the time, Michel Platini, even stated: "Fifty per cent of clubs are losing money and this is an increasing trend. We need to stop this downward spiral. They have spent more than they have earned in the past and have not paid their debts." (BBC 2009). So, in 2009 and in order to fight the hectic spending made by Football clubs and their questionable balance sheets, a package of measures called the UEFA Financial Fair Play Regulations (FFP) was announced. The FFP "aimed at ensuring the healthy, lasting viability of the clubs", according to Platini, and it did so by inhibiting clubs from investing more than their income. The regulations predicted that sanctions should be held against those who exceeded spending over a period of seasons and those penalties went from as little as fines to the severest of all the consequences, the disqualification from the European competitions (UEFA 2011, 12).

Since its full implementation in the 2011/12 season, there have been several Football finance experts claiming that the FFP measures have been the perfect device for the protection of the status quo in European Football. "There's regulation on expenditure and external income (from the pockets of the rich) but there's no regulation on income - media rights, transfer market, prize money and matchday income" said Ouriel Daskal referring to the rules that allowed for some rich-owned Football clubs to disguise external income as other forms of revenue, most commonly by way of inflated sponsorships (CNN 2014). The Israelian sport journalist alleged that "clubs who have money can take out more money and therefore make more money" resulting in "growing gaps between the haves and have-nots" in the Football industry.

UEFA publishes its own rankings of European Football clubs based on their coefficients, that are calculated on top of the club's sporting accomplishments in the last 5 seasons of European

clubs' competitions. Below you will find a table with the Top-10 Europeans clubs according to their coefficient at the end of the 2019/20 season and their position in the same ranking at the end of the 2010/11 season, the season prior to the implementation of FFP [Exhibit 5].

UEFA Top-10 clubs rankings in 2019/20 vs 2010/11, according to their coefficient		
Club	**Position in 2019/20**	**Position in 2010/11**
Bayern	1	4
Real Madrid	2	7
Barcelona	3	2
Atlético Madrid	4	23
Juventus	5	43
Manchester City	6	42
Paris SG	7	38
Sevilla	8	11
Manchester United	9	1
Liverpool	10	5

Exhibit 5: UEFA Top-10 clubs rankings in 2019/20 vs 2010/11, according to their coefficient. *Source: UEFA*.

It should be noted that it was around the 2010/11 season that both Paris Saint-Germain and Manchester City were acquired by foreign investment funds with close and direct ties to the wealthy Royal Families of Qatar and Abu Dhabi, respectively (Spiegel International 2018).

In a cutthroat industry like Football, were smaller clubs have to fight against big sharks, some valued at over 1 billion USD [Exhibit 6], and against regulations that, according to some, instead of protecting them, constrains their investment possibilities and protects the rich, it becomes of paramount necessity for Football clubs to innovate their strategies. Smaller clubs must find ways to be as competitive as the top clubs in Europe while employing fewer financial resources, which seems to be a very hard task. As some Football studies suggest (Szymanski 2016) that in Football you seem to get what you pay for, with data revealing a rather strong correlation between the success of a team and their spending on wages [Exhibit 7].

Nonetheless, a small Football club in London believes to have found a solution.

II. Brentford FC

The year was 1889, and a group of members from the rowing and cricket club gathered at the local pub to decide what would be the best use for the newly opened recreation ground in the small town of Brentford, located in the borough of Hounslow, London, England. The young

gentlemen of that suburban town, seated in the confluence of the river Brent and the Thames, passionately debated and, in the end, unanimously decided to establish Brentford Football Club (White 1989, 56-57).

Also nicknamed "The Bees", due to the local press misinterpretation of the fans' chants of "buck up Bs" (Haynes 1998, 98), Brentford FC enjoyed successful seasons in its early years, but always at amateur and regional competitions. The club would have to wait a couple of years after the end of the First World War to witness the creation of the Third Division and finally join a professional and national competition for the first time in its existence (White 1989, 113-114).

Brentford's first professional season of 1920/21 was quite underwhelming as it finished in the second to last position in the League Table, leading to the club's skirmish with scepticism regarding its capability to handle the competition level. Critics, more often than not, pointed to Brentford inability to match against its opponents at away-games, being defeated on 16 of the 21 games played on the road.

The club went through some structural changes, and after some years as a middle-of-the-table team of the Third Division South – the Third Division had been split between North and South, as more Football clubs professionalized themselves, with the winner or each division being promoted to the Second Division – luck seemed to change for The Bees with the arrival of the ex-Gillingham manager Harry Curtis, also known as "The Guv'nor" (White 1989, 121-128).

Curtis, that in the end would become Brentford's longest-serving and triumphant manager, took the helm of the team during the summer of 1926 and after a string of solid signings he, almost single-handedly, placed The Bees on an upward trajectory, after the club's struggles to find any sort of form, ever since its election to professional national competitions. The first signs of success on the pitch came in the 1929/30 season, where Brentford came in 2nd place and almost secured the promotion to the Second Division, on the back of a perfect record of 21

wins in 21 games played at Griffin Park, the club's home turf. Following a third and fifth-place in the next two seasons, The Bees eventually topped the Third Division South in the 1932/33 season, securing their first promotion to the second-tier competition of Football in the country (White 1989, 136-138).

The Bees kept it rolling now that they were just one promotion away from the First Division, and in their debut season on the Second Division – the 1933/34 season to be more accurate – they surprised everyone when they came just a single point shy from securing the 2nd place in the standings and subsequent promotion. Yet, Brentford fans did not have to wait much longer for the dream-promotion to the topflight of English Football, since on the 27th of April 1935, after a 3-3 away draw at Barnsley, Brentford clinched the 1934/35 Second Division title and a place amongst the top clubs in England for the next season (White 1989, 142-145).

The club found itself in the First Division, after having risen from the Third Division in just 3 years, and it topped all expectations when in its first 3 spells – 1935/36, 1936/37, 1937/38 – reached one 5th and two 6th places, the 3 best ever results in Brentford FC's history (White 1989, 146-151). Unfortunately for The Bees, the honeymoon did not last, owing to everything starting to crumble in the next few years.

Undeniably, Brentford grappled against an aging core of players that formed the squad and the club's relative lower status and budget made it hard to replace them by young quality players who were also coveted by their opponents. That translated into Brentford barely escaping relegation in the last full season before the Second World War came and unexpectedly suspended all national competitions. The WWII years severely impacted the West London club, with not only numerous of its players being recruited for war purposes, but also with the death of Louis P. Simon – the chairman of the club since 1928 (White 1989, 190-194) – taking place during this period, hurting the Brentford's nucleus and stability. The initial season of First

Division Football in England after the WWII would prove to be Brentford's last one in the top tier, till this day.

The lack of revenues during the forced suspension proved to be fatal and the main reason behind The Bees' fall from grace, as it deteriorated an already fragile budget. Budget that was all the more critical since several of the footballers from the First Division that had been recruited for the war decided to retire, leaving many clubs, including Brentford, with the necessity to practically restore their squads. Relegation became inevitable.

The Bees' path from the Third to the First Division came to a full circle in 1954 when the club returned to the bottom-tier of Football for the first time since 1933. Despite the efforts, in the mid-late 1950s, to challenge for promotion to the Second Division, Brentford would eventually fall to the newly founded Fourth Division at the end of the 1961/62 season (White 1989, 229-232). Subsequently, The Bees yo-yoed for several seasons between the Third and Fourth Divisions, incurring in heavy loses along the way, as a consequence of poor investment decisions. One year it got so bad that the club's chairman, Jack Dunnett, reportedly made a secret agreement to sell his stake at the club to his neighbouring Queens Park Rangers' (QPR) counterpart (Haynes 1998, 123-125). That deal never came to fruition because a group of Brentford fans, probably motivated by the appalling scenario of being bought by their local rivals and ceasing to exist, convinced a 6-man syndicate to buy Dunnett's stake in 1967, after a stressful month of protests, discussions, and donations. The syndicate was also capable of obtaining a significant loan, with friendly conditions, in order to keep the club operational (Brentford FC 2020).

The syndicate take-over did not end Brentford's financial woes and the club's constant bouncing around between the two bottom divisions. Austerity became predominant in order to steady the finances and repay the loans, but it also led to weaker teams, that in turn led to decreasing home attendances and an overall lethargic feeling throughout the club. In the 1970s,

Brentford, in essence, only got the taste of obscurity from the bottom-tier division, while in the late 70s/early 80s, the club was capable to consolidate itself as a member of the Third Division. That reputation would be maintained much throughout the 80s, 90s and early 21st century, despite short-lived stints in the Second and Fourth Divisions. The Bees were considered to be a small, humble family-friendly club from West London that roamed the lower divisions of Football in England. A survey carried out on over 1,200 participants concluded that the neutral Football fan considers Brentford as the least offensive club in the UK (The Chris Whiting Show 2012),

Brentford's ownership changed hands a couple of times during those decades, until the club found itself in a very peculiar situation. On June 1998, former Crystal Palace owner Ron Noades bought a majority stake in Brentford FC, appointing himself as both the chairman and manager of The Bees. In 2003, Roan Noades surrendered management control to the newly founded Supporters' Trust Bees United, following disappointing club performances. The 2003/04 season was marked by the debut of Bees United in management control and the glorious escape from relegation in the last game. The subsequent 2 seasons at the now called League One – instead of Third Division – saw the cash-strapped Brentford barely missing out on promotion on both occasions to the freshly renamed Championship – as a replacement for Second Division. Three years later, in 2006, and with aid from loans, supporter contributions – mainly from a fan named Matthew Benham – Bees United bought out Noades' governing shareholding position, thus becoming London's first professional club owned by its supporters and one of the first in England (Brentford FC 2020). As a result of dubious managerial decisions made by Bees United in the first year after their takeover of the club, the 2006/07 season ended with a sour relegation to the Fourth Division. Despite relegation, Brentford finances had been getting better after Matthew Benham paid nearly £3 million of some of the club's debts (BBC Sport

Football 2007). This intriguing character would in time become a key piece in a brighter future for The Bees.

III. Matthew Benham

There is not a lot of things publicly known about Matthew Benham, he prefers and intends to keep it that way. These days he is better known as the owner of Brentford FC who became a multi-millionaire through sports gambling. Still, his path in Football is not as obvious as it may suggest. Benham studied in the distinguished University of Oxford, from 1986 to 1989, where he obtained his Bachelor of Arts degree in Physics. After graduation he secured his first job in the Financial sector, as an associate at Yamaichi International Europe. He only worked there one year, as he then moved to General RE Financial Products and even became the Vice President at Bank of America in the late 90s (Non GamStop Casinos 2020). In 2001, Benham's life career turned into the gambling direction when he became a Trader for Premier Bet, a sport bet broker. This stint would spark a new enthusiasm out of him as he then decided to turn into a professional gambler. Professional gambling allowed Benham to combine two of his passions: sports and analytics.

At the of the 20th century, Stuart Coles and Mark Dixon published a paper titled *Modelling Association Football Scores and Inefficiencies in the Football Betting Market* and it became one of the first studies to defend statistical modelling and analysis to predict the outcome of Football matches. It was as if this paper had been written by Benham himself, as he effectively implemented these ideas of quantitative methods for gambling (Champion Bets 2020) and it made him enough money to launch his gambling consultancy agency centred around the models he had been developing and using to make his bets. The company was named Smartodds and it operated through the hard work of around 80 exceptional modellers – mainly statisticians and mathematicians – that pored over data, statistics, crunched numbers and assessed algorithms to

continuously improve the models that helped determine which teams stood with the best chance of winning or which event had the best chance of happening.

Benham's sporting interest in Brentford started when his father used to take him to Griffin Park as a child (Wadham College 2019) but, his financial interest only started when he heard The Bees were facing imminent economic collapse and he decided to anonymously bail the club out of a £3 million hole. He would also be one of the most vital endorsers for the Supporters' Trust Bees United acquisition of the West London club in the summer of 2006.

Bees United and Matthew Benham entered into a 5-year partnership agreement in 2009 whereby Benham would invest substantial amounts of capital and in return he would get the option of acquiring the ownership of Brentford should the Supporters' Trust not wish to repay his investment. Finally, in June 2012 the Bees United Board suggested to its members that the option be brought forward 2 years in advance, and after a strong vote in favour, Matthew Benham purchased the controlling shareholding of Brentford Football Club from The Trust.

Benham wholeheartedly set forth ambitious goals for his beloved Brentford FC, as he fervently engraved the axiom in the club that they could not win by outspending the competition, which in turn created the need to out-think them. Utilizing his rather profitable background in gambling and everything that came with it – from the mindset to the support from statistical models and data analysis – the new chairman was able to bring success to the club, against all the doubts and criticism to his "mathematical" approach to the game. The reality is that £90 million worth of investments later (Welling 2019), with Matthew as the owner of the club, The Bees experienced the most stable and prosperous years since WWII and perhaps of all its history [Exhibit 9].

IV. A New Way of Perceiving the Game

"If you want to understand how a successful analytical gambler thinks" according to Rasmus Ankersen "you must understand that his fundamental mindset is: the League Table always lies"

(TEDxManchester 2018). This notion goes completely against what is championed by many experts in Football, the notion that “the best team always wins” and that quality will always overcome luck over the course of a campaign, meaning that “the League Table never lies”.

Ankersen wanted to be a professional Football player, but a severe knee injury early in his career prematurely ended his dream (SportKnowHowXL 2015). “I was 19 at the time” recalls Rasmus, so “I packed the bags and started travelling around the world” to crack the secrets of the world's best performance hotbeds and eventually “got interested in the psychological aspects of coaching” which led him to write book on the topics of talent and high-performance cultures, after a couple of years as a mental coach for all sorts of athletes.

He would find some success with his books, especially with *The Gold Mine Effect* in 2012 – an exploration of how some countries and cities develop a disproportionate volume of top talent – and Rasmus believes that it was only after reading the book that Matthew Benham decided to make him the director of Football for Brentford FC and the chairman of FC Midtjylland, the Danish club that Benham bought in the summer of 2014.

What Rasmus and Matthew understand and agree is that there is a high level of randomness in Football primarily because it is a low-scoring game, unlike Basketball, for example. A Basketball game has, on average, more than 100 points per game, while in Football there are 2.8 goals per match (NS Business 2019). “The fewer goals means that there is a bigger risk of some random event influencing the outcome of the contest” stated the Dane, “whether it is the ball hitting the post or a referee making a key decision at the end of the game”. This implies that the best team triumphs less frequently in low-scoring games like Football.

While the larger part of Football pundits and fans might draw the value of a team from the standings, the analytical gambler, on the other hand, will never look at the table. Rather, people like the Brentford directors, will draw guidance from the under-lying performance indicators

revealed by data analysis to truly know how a team has been performing and to better predict where it is going.

This type of assessment would have come in handy to Newcastle United FC management back in 2012, when in that summer they offered their manager Alan Pardew a rarely seen 8-year contract extension (Sky Sports 2012), after an astounding 5th place in The Premier League [Exhibit 10], the best result of the club in more than 10 years. What the club, also known as The Magpies, did not expect was that, after keeping practically the entirety of their players, the best they could get was an appalling 16th place in the following season [Exhibit 11], only 5 points clear of relegation.

The fans and directors were left wondering how was possible that the same team, with the same coaching staff could have such antipodal seasons. Ankersen reckons that the club fell victim to a common bias in Football – "that results are always a consequence of good decision and performances" – what psychologists commonly call outcome bias. Had they executed a closer inspection on the data from their successful season [Exhibit 12] through the lens of an analytical gambler, perhaps they would not be surprised by the plunge in the classification.

Newcastle's goal difference (GD) – the difference between the number of goals a team scored and the numbers of goals it conceded – of plus-5 was the lowest of the top-7 and by far the lowest of the top-5 in The Premier League. This number indicates that The Magpies benefitted from what in Football analytics is known as an extremely efficient goal distribution. Breaking down the numbers we realize that 8 of their 19 wins came by a single goal, whilst they suffered a 3-goal margin defeat in 4 occasions.

Additionally, another indicator that analytical gamblers like to monitor, due to its future performance predicting value, is the shot differential (SD) – the difference between the shots directed at goal made by a team and those produced by their opponents – that in the case of

Newcastle was the only negative figure out of the top-6. On average, adversaries produced 1.4 more shots on goal than The Magpies did in their games.

Basically, what a marginally deeper study of the statistics from the 2011/12 season revealed was that Newcastle was able to score more goals that their adversaries while shooting relative less shots at the target. What minds like that of Matthew Benham could recognize from such findings – that hinted at a positive GD driven by a negative SD – was an unsustainably high conversion rate by Newcastle. The analytics showed that clearly Newcastle did not belong amongst the top teams of The Premier League, influencing the analytical gamblers view that Newcastle presence at the top was a fragile existence and that is why they predicted Newcastle's results to recede in their next campaign, as it eventually did. As a matter of fact, in-game data collected by the analysts suggested that the underlying performance, what at times is referred as expected results, were practically the same in both seasons [Exhibit 13], but the actual results could barely have been more distinct.

V. Finding Undervalued Talent

It is this different and new way of evaluating and perceiving the game of Football that Brentford use as their cornerstone to outsmart the competition in all aspects of the game, more notoriously in the way the club operates in transfer market. Management at the club, by being aware of budget deficiencies, understands that in order to get quality players and build a competitive roster they must spend their money better, if they can only spend a portion of the money their rivals expend.

From first day in office, Matthew Benham has invested a big chunk of his funds in the implementation of an elite recruitment department. The department is set on the use of data and statistical models to analyse players, find those who are undervalued, and take advantage of some of the transfer market inefficiencies. Brentford considers and scouts leagues most clubs on their level do not look into, the London club prefers markets like the second division in

France or lower divisions in Denmark, instead of relying so much on the local market [Exhibit 14] – that is the main source of talent for the divisional rivals – as they deem the English Football market as generally inflated. They use the underlying aggregated data like Expected Goals (xG), Expected Assists (xA), and Smart Passes (SP) to buy players that fit their style of game at relatively lower prices. They also prefer to sign younger players [Exhibit 15], as they usually have yet to reach their peak, and that are usually priced at a lower value.

Following these guidelines has enabled Brentford to sign multiple young talented players at a cheap price. Saïd Benrahma is one of them. The Algerian winger, prior to his arrival at Brentford, spent his third straight loan season away from his parent-club, OGC Nice from Ligue 1, this time at LB Châteauroux, a team playing in Ligue 2 – the French second division. It was there, during the 2017/18 season, that he played 31 games for a total of more than 2,300 minutes and managed to score 9 goals and ditch out 5 assists (Transfermarkt 2020). Despite being a solid season for a 22-year-old player getting his first taste of consistent regular minutes in senior Football, it did not particularly catch the eye of anyone. Unless if you worked at Brentford.

One of the main aspects of the scouting model developed and implemented by The Bees, is that it relies in underlying statistics, at a specific context, that signal a player as outstanding at a particular position. One of the main metrics used is Expected Goals (xG), which is nothing more than the probability that a shot will result in a goal based on the characteristics of the shot – like if it inside or outside the penalty area – and the events leading up to it – a low or a high cross, for instance. The simplest of examples might be the penalty-kick, that data shows, to have an historically conversion rate of 75% (InStat 2020), implying that a penalty-kick symbolizes a xG value of around 0.75 to the player who takes it.

Benham's crew of analytical brains took a contextualization style of assessment to Benrahma's season by comparing it to other strikers that played Ligue 2 during that same period [Exhibit 16]. Not only that, but instead of just seeking to perform an evaluation using the common

metrics of Goals and Assists, the recruitment department took a step further and analysed the Expected Goals (xG), the number of Shots each player took and the Percentage of Shots on target that result in goal. Benrahma had an xG of 7.32 while netting 9 goals, which meant that he exceeded his xG by 1.68 which makes it possible to say that he pretty much performed in line with expectations. However, what stood out the most was the fact that Benrahma had an uncanny ability to create his shooting opportunities – translating to his massive amount of 95 shots taken – that were coupled with a terrible conversion rate of 25%, the lowest of the group by some margin.

What Brentford saw was an opportunity. Sure, the Algerian was only 26th in the top-scorer list, but he was able to achieve that and perform in line with expectations while having a dreadful conversion rate and playing for a mid-table team that had just gained promotion for the second-tier of Football in France. If Brentford were able to improve Benrahma's shooting assertiveness by 10% – that would still not be enough to stop it from being the worst percentage amongst its peers – the goal tally of the winger and his impact in the team output could significantly increase. So, in that summer, that Brentford signed Saïd Benrahma to a 4-year contract, after paying €1.7 million to OG Nice, and start a partnership that would in time become very profitable for both parties.

VI. Getting the Best out of the Talent

Brentford "understands the risk there is with player recruitment" and the "mathematical background of the player recruitment process limits the risk that this type of dealings would typically bring", according to Jacob Newman (Footnote 1). Jacob is a performance analyst at Newport County AFC, a Football club located in South Wales that competes in League Two, the fourth-tier of the English Football League system. He is also a Brentford supporter and the founder of The Bees Analytica, a fan-run-page that covers and examines all things happening

Footnote 1 – interview conducted by the author of the paper on the 11th of December 2020.

in English Football from an analytical perspective, with a special focus on Brentford, and that already amassed more than 2 thousand followers on Twitter.

Finding undervalued talent alone, although necessary, it is not enough for The Bees and the accomplishment of their objectives. “It is one of many cogs in the system that the club uses” to potentialize all the talent in his ranks in the search for collective success, and for Jacob it is this system that “allowed the club to grow the way it has”.

Financially wise, Brentford has one of the lowest commercial revenues in the Championship [talkSport 2020] and therefore it has to rely on profitable player trading to have a balanced monetary health. Fortunately for The Bees, that has been the bread and butter of the club ever since Matthew Benham took control. From the season that marked Brentford’s promotion to the Championship – 2014/15 – until the current 2020/21 season, the club has spent roughly €76 million in player transfers coming in, while receiving almost €195 million for the players sold, for a total profit of practically €120 million coming from player trading (Transfermarkt 2020) in the course of the 6 seasons [Exhibit 17].

The Bees do not utilize Data Analytics only in their recruitment process as there is a whole system that also applies Data Analytics as a supporting tool and that tries to potentialize a set of players that have untapped potential still to reach. According to Jacob Newman: “Data Analytics is an instrument to gain marginal advantages in Football” and Brentford FC uses it to improve sport performance in, for example “sports scientists, video analysts, set-piece/throw-in coaches, psychologists and specifically trained sleep coaches”.

Going back to Saïd Benrahma, the Algerian is a primary example of how the Brentford system empowers the talent that it has in their rankings. In the 2019/20 season, Benrahma – that had just reached his 24th birthday – was paired with the also 24-year-old Englishman striker Ollie Watkins and the 20-year-old French-Cameroonian forward Bryan Mbeumo. The last two, who were also discovered by the club’s recruitment department, were signed from lower divisions

in England and France, respectively. Watkins was signed from Exeter City – a 4th English division side – in the 2017/18 season for a modest fee of €2 million, while Mbeumo had just been signed by The Bees from Troyes – from the 2nd division in France – for a club-record fee of €6.5 million (Transfermarkt 2020). The three forwards together formed what the supporters affectionately called the BMW trio – the 3 initial letters of the strikers' last names – and in that season, the first they all played together, they were responsible for almost 60 of the 80 goals that Brentford scored in the Championship – the most scored by any team in that stint. Each one of the BMW trio were in the top-10 Championship players in terms of goals and assist, excluding penalties, per 90 minutes – the length of a Football match [Exhibit 18]. Brentford was the only Championship club able to have more than one player in the top-10 list and it did that by having three: Mbeumo with 15 goals and 8 assists, Watkins that assisted on 3 goals and scored 25, while Benrahma netted 17 goals and tallied 9 assists. Unfortunately, this extraordinary numbers were not enough to secure The Bees their desired promotion.

The Championship promotes 3 teams every season, them being the top-2 that gain automatic promotion, and a 3rd team that is decided over a Playoff system. The Playoffs are contested by the teams finishing from 3rd to 6th in the League Table. The two-legged semi-finals are played by matching up the 3rd against the 6th and the 4th against the 5th, with the winners of that semi-finals playing the final at the iconic Wembley Stadium in London. Brentford finished 3rd in the 2019/20 Championship season – missing automatic promotion by just 2 points [Exhibit 19] – and after beating Swansea in the Playoffs semi-finals secured the ticket to the Playoffs final in Wembley against the London rivals, Fulham FC. The Championship Playoff Final is the most valuable Football match in the world to the winner, as the victorious side gets a prize of around €190 million (talkSport 2019) alongside the promotion to one of the richest divisions in Football, if not the richest. This all made it harder for Brentford fans to witness their team lose 2-1 in extra-time to their local rivals Fulham and miss the opportunity to finally reach the top-

flight in England for the first time in over 73-years. However, the crushing defeat did not deter both management and fans faith in the project, because as Jacob Newman put it best: “the club is in the healthiest place that it has ever been in its 100-plus-year history”.

At the end of that season, after almost securing an historic promotion, Brentford sold Saïd Benrahma to West Ham United FC, a Premier League side for a total consideration of €27.5 million, after almost 100 games at the club over two seasons, with 30 goals and 27 assists recorded during that time. Benrahma and Watkins – that was also sold for €30.2 million to Aston Villa – joined a vast group of players that Brentford management turned into a significant profit [Exhibit 20], but only after getting the best of their game in the pitch. It has been this rarely seen conciliation of financial and sporting success that allowed the club to leave his old ground Griffin Park – used since 1904 – and move into a new fully-paid €80 million modern venue, The Brentford Community Stadium, and most importantly, it sustains the club’s hope to soon join The Premier League and buy more ready-players like Ivan Toney – the 3rd division top-scorer in England that Brentford acquired in the summer of 2020 – to help them do it.

For Rasmus Ankersen, the key for Brentford has been “being able to identify undervalued talent in the market, develop them, and then sell them on for profit, gradually building more value into the squad and gradually increasing the level of the squad”. With new ground-breaking additional measures being constantly put into effect, like that of the recent employing of a Tactical Statistician (Brentford FC 2020) to use machine learning and tracking data to evaluate team’s systems and tactics from a statistical view, Brentford seems to be in the forefront of Data Analytics implementation in Football and one step closer to seeing First Division Football for the first time since the 1947. One thing is certain, Football has never seen anything like The Bees before.

Teaching Note

I. Case Synopsis: *The Bees: How Data Analytics Can Change the Way Value is Perceived and Maximized* is a Case Study on how Brentford FC, a humble Second Division Football club from England, has been able to over-perform financially and sportily, despite relative lower economic power, through the ground-breaking implementation of Data Analytic methods across all stages of the club's operations. The Case focuses particularly on the way Brentford uses underlying performance indicators to find undervalued Football players and how the club's system – supported by Data Analysis – is set to take the most out of those same players.

What makes it more impressive is that Brentford has been able to do all this in a Football industry that has suffered a huge growth in the last years when it comes to popularity and revenues, resulting in fierce competition and record investments witnessed in the most recent years. To make things worse, the status quo in Football seems harder than ever to break, with some measures employed by the Football's highest governing bodies appearing to protect the elite clubs and expand the gaps between the "haves and have-nots" in the Football industry.

Brentford is a unique organisation due to its capacity of conciliating success in and out of the pitch. In these last few years, the club has consolidated itself as a serious contender to achieve promotion to The Premier League while presenting healthy financial records, with the approximately €120 million of profit coming from player trading and the move to a newly built top-tech €80 million stadium as signs of economic solidity.

If there is someone to blame for this amazing achievement, that someone is Matthew Benham. Benham, the owner of The Bees, made his fortune from sporting gambling by outsmarting the odd-makers through statistical modelling and analysis, and its predicting power. After buying the entire stake of his childhood team, he decided to employ both the same strategy and mindset used to beat the brokers, but this time to outsmart the club's competition, since Brentford, by

virtue of having less credentials than its peers, could not outspend them, thus needing to out-think them in order to triumph.

The analytical mentality at the core of The Bees has enabled the club to look at the value of players and teams from a new perspective and fight a very common flaw seen at Football management: the belief that good results are a consequence of good decisions and performances, what is also known as outcome bias.

What minds like that of Benham understand is the higher level of impact that random events have on a low-scoring sport like Football, which implies that the best team wins less often. This understanding coupled with a more profound analysis of data, has gifted the West London club with a unique way of perceiving what is valuable and sustainable and what is not.

Having this distinct perspective, relative to the majority of its foes, engraved at Brentford's core has given the club the capacity to recognise undervalued talent, develop them, and then sell them on for profit, steadily creating more value into the squad and increasing the level of the Football club and dream to reach the top-flight in English Football.

II. Case Objective: There is a small number of industries bigger than the Football one, and even smaller is the number of those who are more scrutinized and followed. The fact it is called the "People's game" is not a fluke and the intensity of the spotlight directed at Football not only makes it very relatable to the majority of those who may get to study this Case, as they are familiarised with the game and are probably a fan of it, but it also makes it plenty resourceful, with all the news, reporting and data coming from the wide coverage of this global sport.

That facilitates to become clearer the fact that Brentford's usage of Data Analytic tools has provided the Football club with a hedge over their rivals and undoubtedly allowed them to punch above their weight. Brentford is a clear example, in a very well-known and cutthroat industry, that Data Analysis implementation in all phases of an organisation backed by the correct set of people that understand how to apply it can completely change that same

organisation for the better. This Case is an attempt to comprehensively and pragmatically bring into discussion how the usage of Data Analytics, no matter the depth and complexity of its use, can profit those employing it.

III. Where it may to be Used: There is no need to complicate or give much thought to what course or area can use this Case as a lecturing tool. Being an exploration on how Football Analytics has helped to completely turn around a Football club for the better, it makes it pretty convincing to say that a course in the field of Data and Business Analytics – like for instance Big Data Analysis – fits the best with the topic. You could also make the case that courses like Entrepreneurial Finance or Data Analytics for Finance could use this Case should they wish to give the class a perspective of how innovative and disruptive Data Analytic methods – or any other type of method for the matter – can make an organisation take the best out of some deficiencies in the segment it operates, more explicitly in the Financial sector.

IV. Suggestion on How to Structure the Class around the Case: As an introductory class to Data Analytics the focus should be on assuring that students leave the class with a clear understanding on what can be some the benefits coming from that same usage and how the integral incorporation of analytical methods can reshape and empower an organisation.

This Case could be introduced after the opening classes that introduce Data Analytics to the students. At the end of this introductory classes, the lecturer could save 15 to 20 minutes of the class and display the video of the TEDx talk from Rasmus Ankersen, the Football director from Brentford FC, titled “What Football Analytics can Teach Successful Organisations” (link: https://www.youtube.com/watch?v=Sy2vc9lW5r0&ab_channel=TEDxTalks). The video shall introduce to the students the idea of how the innovative use of big data to drive decision making can help a company. At the end of the video, that coincides with the end of the class, the professor should ask the students to read the case *The Bees: How Data Analytics Can Change the Way Value is Perceived and Maximized* for the next class together with the assignment of a

couple of questions – some may come from the suggested list in the following section – but at least one of them being: “What can Football Analytics, and the case of Brentford, teach other organisations?”.

V. Suggested Questions and Discussion: The next segment will be divided in accordance with the chapters of the Case study and it will have an additional one at the for the wrap up of the in-class Case Study discussion. Each chapter shall be escorted by its succinct description, a pair of proposals of what can be the main questions on the topic and if relevant, the suggested tools or ways to answer them.

1. The Football Industry: This chapter is meant to give a brief introduction to the Football industry and enumerate the latest trends and changes to the competitive setting of the sport.

- What have been the latest trends in the Football Industry? Viable answer (V.a): The Football industry has seen an overwhelming increase on popularity and the amount of money it is responsible to generate. Exhibits 1 and 2 show that positive trend.

- What do you think has been the effect of the Financial Fair Play Regulations (FFP) in Football? V.a: Despite the intention of “ensuring the healthy, lasting viability of the clubs”, many experts believe that FFP has been the perfect shield to preserve the status quo. The biggest fact supporting that claim can be seen in Exhibit 5, where we can see that from the year prior to the implementation of FFP till the last season, the 10 best clubs in Europe have barely changed and with 2 clubs joining it after being bought by funds with close ties to vastly monied royal families from the Arabic Peninsula.

- Other questions: What are the main obstacles for small clubs in the Football industry? Despite the competition being as fierce as ever, do you think that success has been reserved for just a small elite and why? What would be your suggestion for a smaller club that wanted to compete with richer clubs? To be successful in Football do you have to overspend the competition?

2. Brentford FC: This segment provides an overview of the 120-plus-year history of the modest West London Football club, Brentford FC, from its establishment till the 2010's.

- How would you describe Brentford FC history prior to the acquisition by Matthew Benham? V.a: Brentford FC is a very humble club from the London and its best days trace back to the years prior to WWII, when the club was playing First Division Football, but the club would then fall to obscurity in the lower divisions and battle with many financial struggles.

- Other questions: Why do you think the club found success in the years prior to the WWII? There was a period where Brentford become one of the few clubs being run by the fans, instead of being privately owned, how do you think it affected the club?

3. Matthew Benham: Here the Case develops on the background of Matthew Benham, the owner of The Bees. You will find out how the unique path of Benham deeply affected the club.

- What is Matthew Benham's background? V.a: Benham took a Physics degree in the famous Oxford University, and after years of working in the Financial sector, he would then jump to the Sports Gambling sector. It was here, through the use of Mathematical and Statistical models, that he bested the odd-makers and made his fortune.

- How does the Benham's trajectory influence the way he runs Brentford? V.a: His analytical gambling background gave him the mindset to implement innovative methods based on Data Analysis and guide Brentford to its most stable years in the last few years [Exhibit 9].

- Other questions: How did Benham make his fortune? Does the background of the leadership influence the company and why? Did Benham positively impact the club?

4. A New Way of Perceiving the Game: Through a practical example you are presented with the difference between how an analytical gambler and a common Football fan/director thinks.

- Why did analytical minds not get surprise with Newcastle's plunge in the standings? V.a: By studying underling performance indicators, like GD and SD, the analytical minds understood

that Newcastle season had been highly overperforming in comparison with what was expected and that eventually the actual and expected results would converge – Exhibit 13.

- Other questions: What is a common bias amongst Football directors? What is outcome bias? Why is Football so subjective to random events? Why did Newcastle get so surprised with the downfall in the League table?

5. Finding Undervalued Talent: Again, a practical example, of how the analytical minds at Brentford are able to see undervalued potential where other do not.

- What did only Brentford see in Benrahma? V.a: The Bees could understand that, despite not having the most exciting basic metrics like Goals, through a deeper analysis and contextualization of the numbers – Exhibit 16 – that there was an opportunity to increase the output of Benrahma by simply improving his shooting accuracy.

- How can you correlate this topic with the Financial sector? V.a: Finding undervalued assets has been one of the clearest objectives of some of the brightest minds in the Financial sector. Warren Buffett, for instance, as long advocated and used a Value Investing strategy that looks at the intrinsic value of a share rather than the commonly used technical markers.

- Other questions: Why did not Benrahma standout from the crowd?

6. Getting the Best out of the Talent: In this chapter you get presented with the key fundamentals that have allowed Brentford to conciliate success in and out of the pitch.

- What are the ways that Brentford potentialize their players? V.a: Like Jacob Newman said The Bees use Data Analytics as a "cog in a system" including everything from sports scientists, to set-piece/throw-in coaches, to even trained sleep coaches. That is one of the reasons behind how they can get so much output on the pitch from cheap players – Exhibit 18 – and eventually make so much profit from their transfers – Exhibit 17.

- Other questions: What are other areas where Brentford applies Data Analytics? What is the key to Brentford success? What is the main source of Brentford revenues?

7. Wrap up: Time dedicated to the final wrap up of the findings of the Case.

- What can The Bees situation teach other organisations? V.a: The Bees are an illustration of how the use of Data Analytics clan revamp an organisation by providing it with a hedge over the competition by giving it the tools to better understand everything around it and take advantage of many inefficiencies of the industry where it operates.

- Other questions: What do you think it is the future for Brentford? Do you think that the strategy is sustainable? Do you believe that other clubs might mirror The Bees' strategy and takeaway any existing competitive advantage? Do you think it only works in Football? What did you learn from this Case? Do you think this Case was valuable and why?

VI. Conclusion: In conclusion, *The Bees: How Data Analytics Can Change the Way Value is Perceived and Maximized* can be an intuitive, practical, and exciting illustration of how inefficiencies in an industry can be exploited by something that has become a common theme in the 21st century, Data Analytics. The provocative intention of this Case is to note that the astounding way that Brentford FC and its management are so nonchalantly breaking some of the oldest and traditionally accepted "truths" in Football with a not that so intricate use of Data Analytics should leave anyone wondering if Football is the only industry or area where there can be positive disruptions coming from a sound integration of Data driven methods and tactics.

Exhibits list

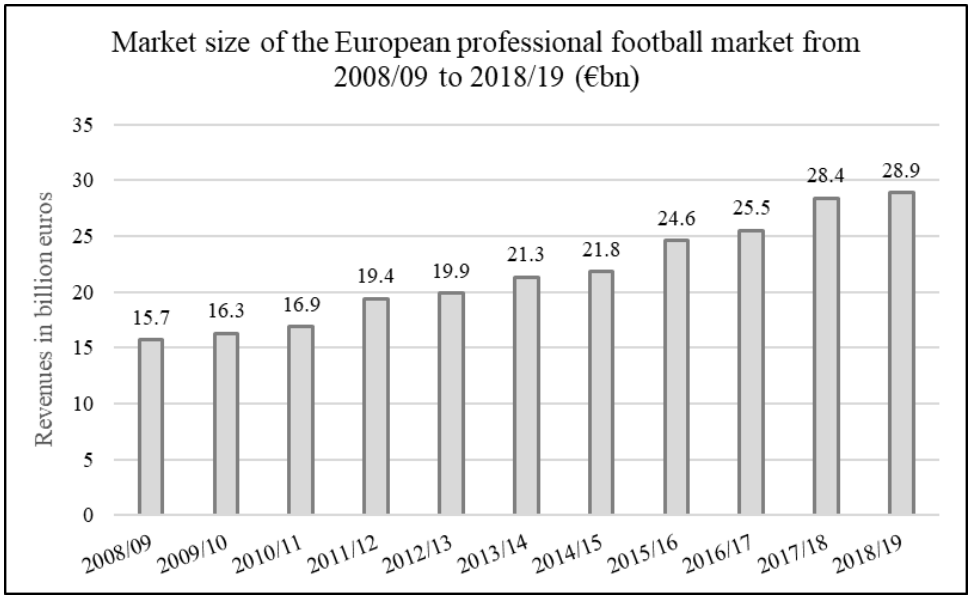


Exhibit 1: The graphic shows the total revenue of the European professional soccer market from 2008/09 to 2018/19, in billions of euros. *Source: Statista.*

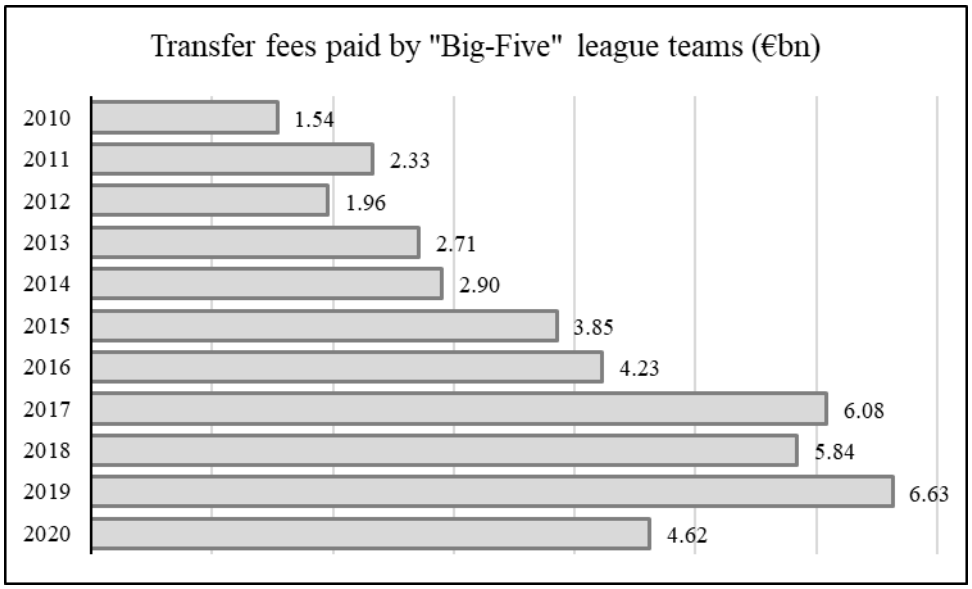


Exhibit 2: The graphic shows the total transfer indemnities paid by Big-Five league teams from 2010 to 2020, in billions of euros. *Source: CIES Football Observatory.*

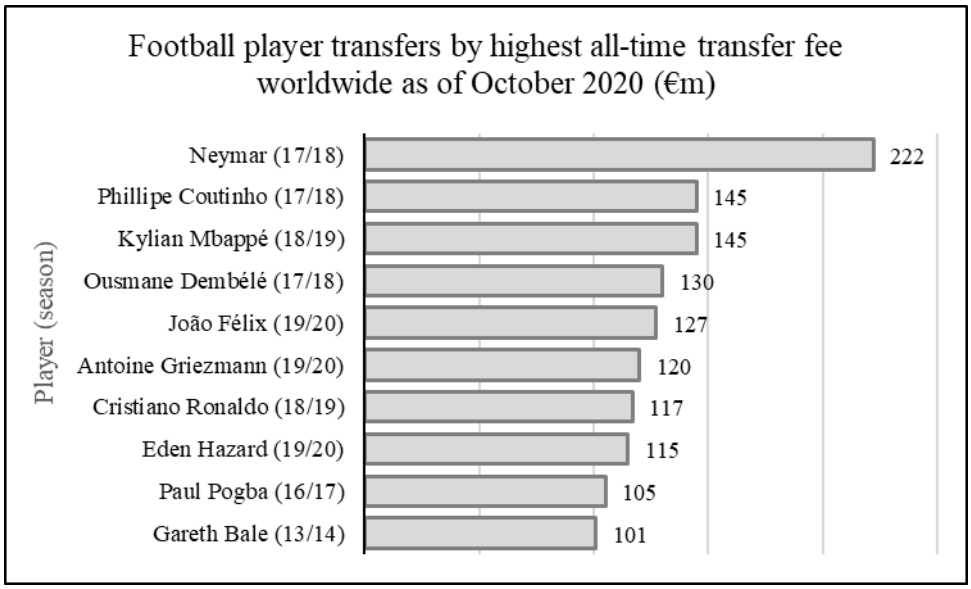


Exhibit 3: The graphic depicts the Top-10 all-time transfer fees worldwide as of October 2020, in millions of euros. *Source: CIES Football Observatory.*

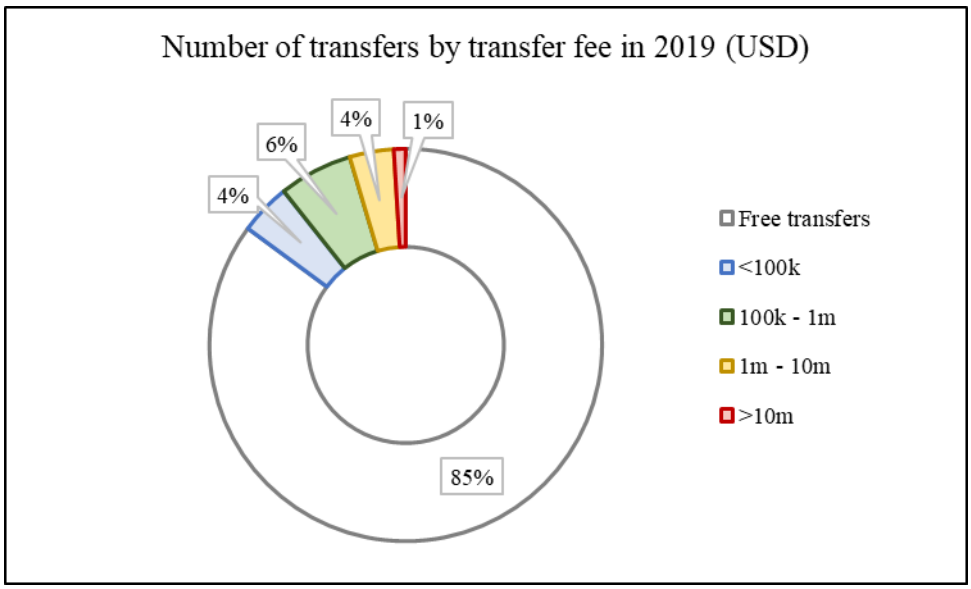


Exhibit 4: The graphic illustrates number of transfers by transfer fee in 2019, in millions of US dollars. *Source: FIFA – Global Transfer Market Report 2019.*

UEFA Top-10 clubs rankings in 2019/20 vs 2010/11, according to their coefficient		
Club	**Position in 2019/20**	**Position in 2010/11**
Bayern	1	4
Real Madrid	2	7
Barcelona	3	2
Atlético Madrid	4	23
Juventus	5	43
Manchester City	6	42
Paris SG	7	38
Sevilla	8	11
Manchester United	9	1
Liverpool	10	5

Exhibit 5: The table represents the UEFA Top-10 clubs rankings in 2019/20 vs 2010/11, according to their coefficient. *Source: UEFA.*

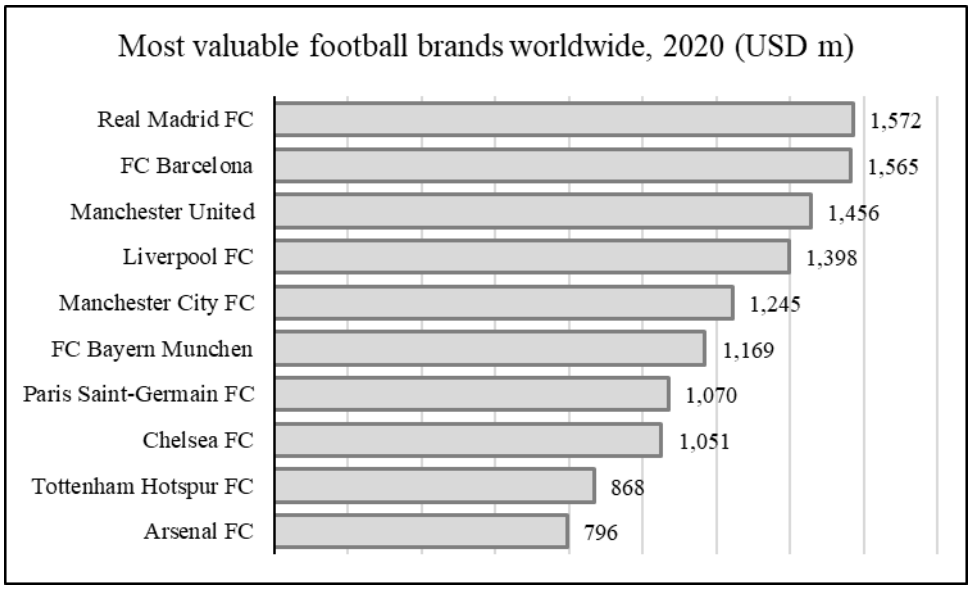


Exhibit 6: The graphic depicts the Top-10 most valuable Football brands worldwide in 2020, in millions of US dollars. *Source: Statista.*

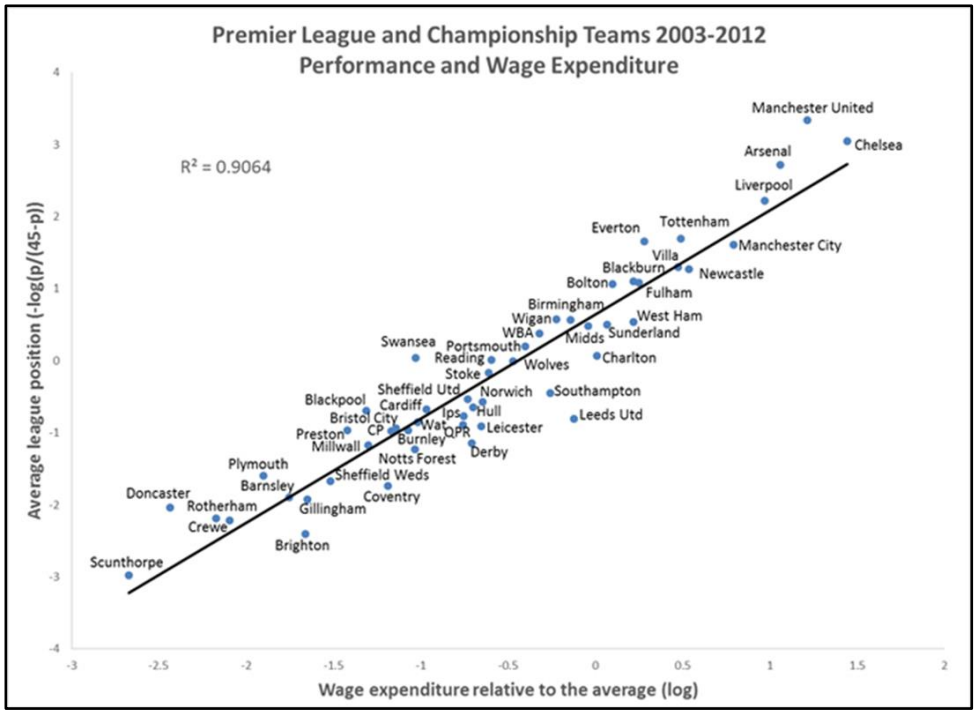


Exhibit 7: The graph relates the average league position of teams appearing in the top 2 English divisions over 2003-2012 to their average wage spending, expressed in proportion to the average wage spending of all clubs. *Source: Stefan Szymanski on the business of football.*

Brentford FC results during the Harry Curtis tenure as manager, 1926-1949

Season	Position	Competition	
1926/27	11th	Third Division South	
1927/28	12th		
1928/29	13th		
1929/30	2nd		
1930/31	3rd		
1931/32	5th		
1932/33	1st		Champions and promoted
1933/34	4th	Second Division	
1934/35	1st		Champions and promoted
1935/36	5th	First Division	
1936/37	6th		
1937/38	6th		
1938/39	18th		
WW2	////////	//////////////////////////////////	
1946/47	21st	First Division	Relegated
1947/48	15th	Second Division	
1948/49	21st		

Exhibit 8: The table shows Brentford FC results during the Harry Curtis' tenure as their manager, from the 1926/27 to the 1948/49 season. *Source: Haynes and Coumbe. 2006.*

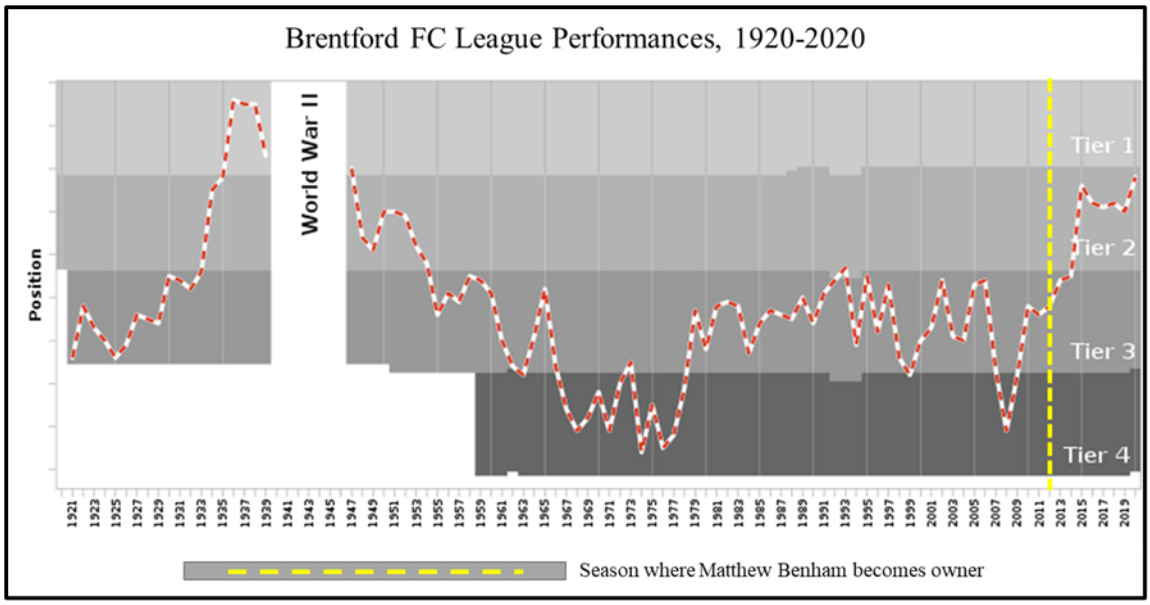


Exhibit 9: The graphic represents the yearly table positions of Brentford FC since election to the English Football League, from 1920 until 2020. *Source: Wikipedia.*.

English Premier League Table 2011/12

#	Team	Pts
1	Manchester City	89
2	Manchester United	89
3	Arsenal	70
4	Tottenham	69
5	Newcastle	65
6	Chelsea	64
7	Everton	56
8	Liverpool	52
9	Fulham	52
10	West Bromwich	47
11	Swansea	47
12	Norwich	47
13	Sunderland	45
14	Stoke	45
15	Wigan	43
16	Aston Villa	38
17	Queens Park Rangers	37
18	Bolton	36
19	Blackburn	31
20	Wolverhampton	25

Exhibit 10: The table shows The Premier League table at the end of the 2011/12 season. *Source: Premier League.*

English Premier League Table 2012/13		
#	Team	Pts
1	Manchester United	89
2	Manchester City	78
3	Chelsea	75
4	Arsenal	73
5	Tottenham	72
6	Everton	63
7	Liverpool	61
8	West Bromwich	49
9	Swanswa	46
10	West Ham	46
11	Norwich	44
12	Fulham	43
13	Stoke	42
14	Southampton	41
15	Aston Villa	41
16	Newcastle	41
17	Sunderland	39
18	Wigan	36
19	Reading	28
20	Queens Park Rangers	25

Exhibit 11: The table shows The Premier League table at the end of the 2012/13 season. *Source: Premier League.*

Goal Difference in the Premier League 2011/12			
#	Team	GD	Pts
1	Manchester City	+64	89
2	Manchester United	+56	89
3	Arsenal	+25	70
4	Tottenham	+25	69
5	Newcastle	+5	65
6	Chelsea	+19	64
7	Everton	+10	56

Shot Differencial in the Premier League 2011/12				
#	Team	Home	Away	Total
1	Manchester City	+12.3	+5.3	+8.8
2	Manchester United	+8.5	-1.2	+3.6
3	Arsenal	+9.5	+3.1	+6.3
4	Tottenham	+10.4	+2.1	+6.2
5	Newcastle	+3.5	-6.3	-1.4
6	Chelsea	+8.8	+2.8	+5.8

Exhibit 12: The tables show The Premier League Goal Difference and the Shot at Goal Differential per game at the end of the 2011/12 season. *Source: Premier League.*

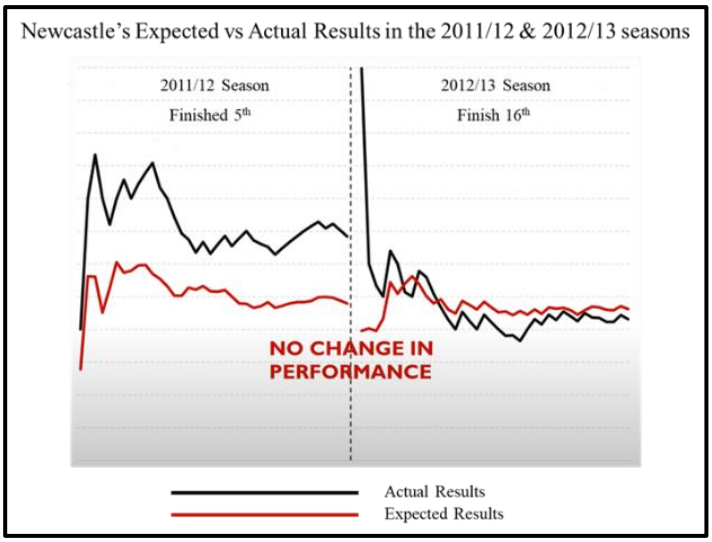


Exhibit 13: The graphic illustrates the comparison between what were Newcastle actual results versus what their underlying performance indicators suggested to be, for the 2011/12 and 2012/13 seasons. *Source: TedXManchester.*

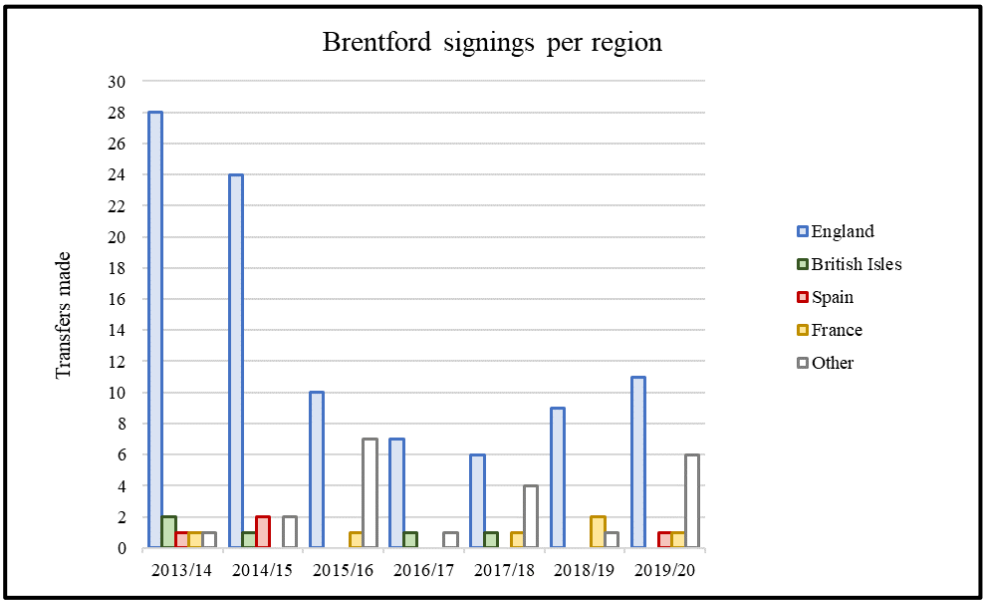


Exhibit 14: The graphic reveals the players acquired by Brentford, for the A and B team, according to the region they were competing at the time of the signing, from the 2013/14 to the 2019/20 season, showing a steady decrease in the number of players bought coming from the UK and an increase of signings coming from other geographies. *Source: EFL Analysis.*

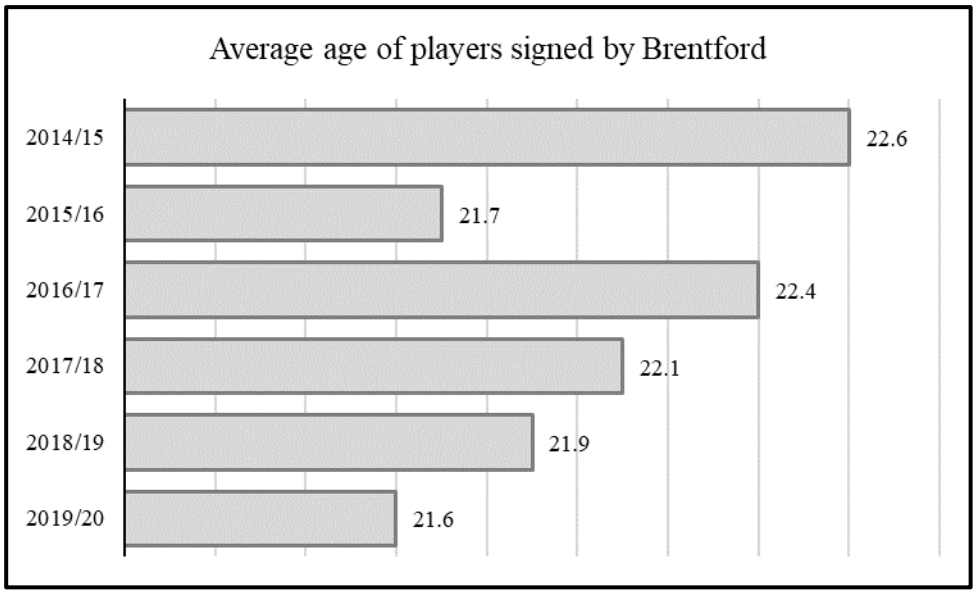


Exhibit 15: The exhibit is referring to the average age of the players that arrived at Brentford, from the 2014/15 to the 2019/20 season. *Source: EFL Analysis.*

Said Benrahma vs other Ligue 2 attackers in 2017/18

Top Scorer Position	Name	Age	Goals	xG	Goals-xG	Shots	Shot at goal conversion rate
1	Bozok	21	24	13.35	10.65	96	53%
5	Dona Ndoh	32	15	13.11	1.89	76	43%
10	Tchokounte	29	12	11.86	0.14	66	44%
15	Phillipoteaux	30	11	8.03	2.97	51	52%
20	Merdji	24	10	5.51	4.49	45	46%
25	Fortune	28	9	10.95	-1.95	63	36%
26	***Benhrama***	***22***	***9***	***7.32***	***1.68***	***95***	***25%***
30	Faussurier	31	8	4.86	3.14	41	40%
35	Bassi	20	7	3.80	3.20	58	37%

Exhibit 16: The table illustrates a comparison of Saïd Benrahma with other attackers from the Ligue 2 in France, in the 2017/18 season. *Source: EFL Analysis.*

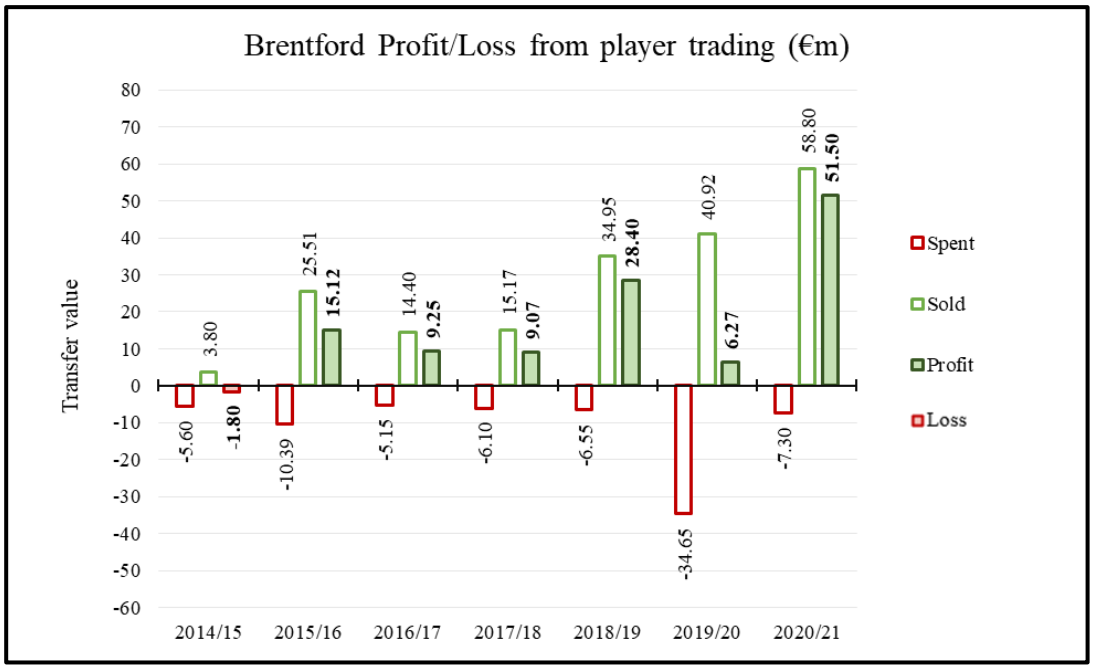


Exhibit 17: The graphic depicts Brentford's player trading Profit/Loss ever since the club's promotion to the Championship in the 2014/15 season until the current season of 2020/21 season. *Source: Transfermarkt.*

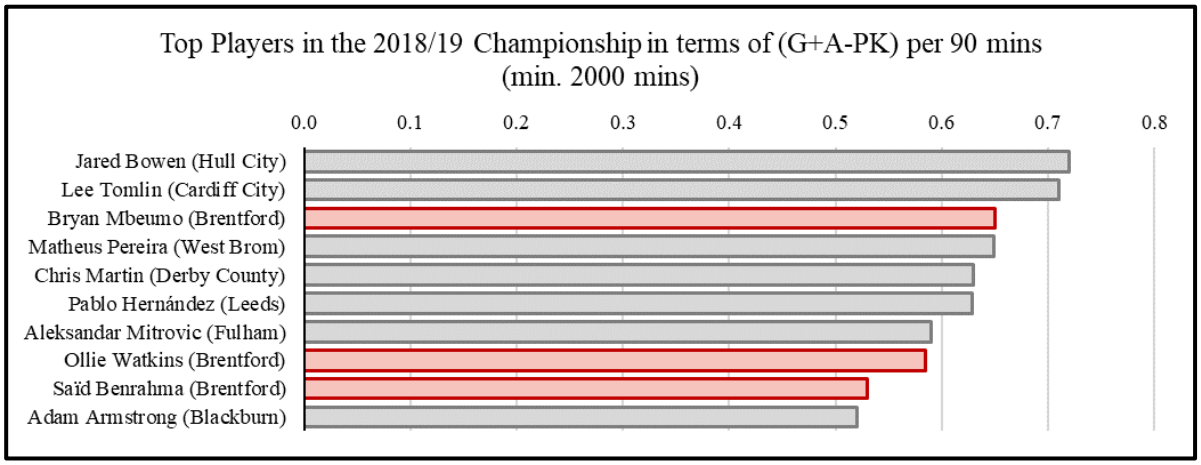


Exhibit 18: The bar-chart is the top-10 list players in the 2018/19 Championship season in terms of Goals (G) plus Assist (A) minus Penalty kicks (PK) per 90 minutes, with a minimum of 2,000 minutes played in the season. *Source: Towards Data Science.*

Championship Table 2019/20						
#	Team	Pts	GS	GA	GD	
1	Leeds United	93	77	35	+42	Promotion
2	West Bromwich Albion	83	77	45	+32	
3	**Brentford**	**81**	**80**	**38**	**+42**	Playoff
4	Fulham	81	64	48	+16	
5	Cardiff City	73	68	58	+10	Relegation
6	Swansea	70	62	53	+9	
7	Nottingham Forest	70	58	50	+8	
8	Millwall	68	57	51	+6	
9	Preston North End	66	59	54	+5	
10	Derby County	64	62	64	-2	
11	Blackburn Rovers	63	66	63	+3	
12	Bristol City	63	60	65	-5	
13	QPR	58	67	76	-9	
14	Reading	56	59	58	+1	
15	Stoke City	56	62	68	-6	
16	Sheffield Wednesday	56	58	66	-8	
17	Middlesbrough	53	48	61	-13	
18	Huddersfield	51	52	70	-18	
19	Luton Town	51	54	82	-28	
20	Birmingham City	50	54	75	-21	
21	Barnsley	49	49	69	-20	
22	Charlton Athletic	48	50	65	-15	
23	Wigan	47	57	56	+1	
24	Hull City	45	57	87	-30	

Exhibit 19: The table shows the Championship table at the end of the 2019/20 season, with Points (Pts), Goals Scored (GS), Goals Against (GA) and Goal Difference (GD). *Source: Zerozero.*

Major Brentford player transfer profits (€m)			
Player	**Bought for**	**Sold for**	**Profit of**
Ollie Watkins	2.0	30.8	28.8
Saïd Benrahma	1.7	27.5	25.8
Neal Maupay	2.0	22.2	20.2
Chris Mepham	0.0	13.6	13.6
Andre Gray	0.6	12.4	11.8
Ezri Konsa	2.9	13.3	10.4
Scott Hogan	1.0	10.5	9.5
Ryan Woods	1.4	7.3	5.9
Jota	1.5	6.5	5.0

Exhibit 20: The table shows Brentford some of the major player transfer profits ever since Matthew Benham took control of the club. *Source: Transfermarkt.*

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