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Management Quality of Professional Football Clubs

The Football Management (FoMa) Q-Score 2022

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Abstract

Managing a football club has become much more complex in recent years, as the clubs have turned into football companies and a growing number of stakeholders have entered the industry. The clubs' capabilities to handle the increased complexity vary, turning management quality into a crucial competitive (dis-)advantage. This new 2022 edition of the FoMa Q-Score ranking builds on the framework established by ZÜLCH & PALME (2017), which comprehensively assesses management quality along four dimensions, namely *Sporting Success*, *Financial Performance*, *Fan Welfare Maximization* and *Leadership & Governance*, in order to perform a longitudinal and cross-sectional analysis of the German professional football clubs' management quality. As confirmed by high-level football club executives, these dimensions are able to objectively quantify relevant success factors of a professional football club (ZÜLCH, CRUZ, & SCHREGEL, 2021). Ultimately, the performance in all dimensions, referred to as FoMa Q-Score, indicates a club's management quality. Consequently, the FoMa Q-Score has become a well-established management tool in science as well as in practice in recent years, even more so in light of the fallout of the COVID-19 pandemic. The high scientific quality has been confirmed by the publication of this tool in the internationally renowned sports science journal "Sports, Business and Management" in 2020. From the practitioners' perspective it can be observed that interested football managers are already making use of our findings, which now also reflect the COVID-19 effects on financials and non-financials in this latest, 6th edition, and derive specific actions to benchmark their club's setups in order to make up ground or defend their competitive positions.

Keywords: Balanced Scorecard, Sporting Success, Financial Performance, Fan Welfare Maximization, Leadership & Governance, Team Performance, Branding, Internationalization, Social Responsibility, Board Quality, Transparency

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List of Abbreviations

A

AG Aktiengesellschaft (joint stock company)

B

B Branding

BQ Board Quality

BSC Berliner Sport Club

C

C Communication

CEO Chief Executive Officer

CG Corporate Governance

Co. Company

CSR Corporate Social Responsibility

COVID-19 Coronavirus Disease 2019

D

DFB Deutscher Fußball Bund (German Football Association)

DFL Deutsche Fußball Liga (German Football League)

E

e.g. for example (Latin: *exempli gratia*)

e.V. eingetragener Verein (registered association)

ed. editor, edition

et al. and others (Latin: *et alii*)

etc. et cetera

F

FC Fußball Club/football club/company

FMEF Football Management Evaluation Framework

FoMa Football Management

FP Financial Performance

FSV Fußball- und Sportverein (football and sports associations)

FWM	Fan Welfare Maximization
G	
G	Governance
GmbH	Gesellschaft(en) mit beschränkter Haftung (limited company)
GP	Growth/Profitability
I	
I	Internationalization
i.a.	among others (Latin: inter alia)
i.e.	that is (Latin: id est)
IMUG	Institut für Markt-Umwelt-Gesellschaft e.V. (Institute for Market, Environment, and Society)
K	
KGaA	Kommanditgesellschaft auf Aktien (partnership limited by shares)
KKR	Kohlberg Kraus Roberts & Co.
KPI	Key Performance Indicator
KPMG	Klynveld Peat Marwick Goerdeler
L	
LG	Leadership & Governance
M	
MA	Membership/Attendance
P	
p.	page
PCC	Player/Coach Characteristics
PD	Player Development
PL	Player(s)
pp.	pages
ppt	percentage points
R	
RB	Rasenballsport (lawn ball games)

Q

Q Quality

S

SC Sport Club

SS Sporting Success

SR Social Responsibility

SV Sport Verein (sports club)

T

T Transparency

TP Team Performance

TSG Turn- und Sportgemeinschaft (physical education association)

U

UEFA Union of European Football Associations

V

VfB Verein für Bewegungsspiele (active games club)

VfL Verein für Leibesübungen (physical exercise club)

VIP Very Important Person(s)

1 Starting Point

The positive economic development of the German Bundesliga came to an abrupt halt with the spread of COVID-19 at the end of the 2019/20 season. New revenue records of more than EUR 4 billion, as in the last pre-pandemic season 2018/19, have no longer been possible in light of the severely limited match attendances throughout the last two years. Even though a more regular operation is expected for the upcoming season, the impact of the COVID-19 pandemic on game operation was still omnipresent during the 2021/22 season. In addition, the club financials have been heavily hit by the effects of ghost games, limited international travel, and declining transfer fees, putting the future of many clubs into jeopardy. Consequently, in these times of crisis, professional management is more than ever essential to ensure the continued existence of the respective club. The last year has shown impressively that well-managed companies with a robust business model were able to recover more quickly in the aftermath of the pandemic than unprofessional organizations.

Actually, with the development of the professional football field in the last decades, football clubs have also transformed themselves into professional football companies (FCs) (ZÜLCH & PALME, 2017). Although European FCs have traditionally been described as utility maximizers (SLOANE, 1971), contrary to traditional enterprises which are regarded as profit maximizers, FCs have more and more been incentivized to not only focus on their sportive performance, but also on their long-term financial stability. In fact, despite the significant revenue growth, some FCs have still entered into financial troubles; for instance, SZYMANSKI (2014) recorded a decline in Premier League participants' profitability between 1986 and 2010, despite an average revenue growth of 16.7% over the period. This is one of the reasons why new regulations, such as the UEFA Financial Fair Play Regulation (FFP), now called UEFA Financial Sustainability, have been introduced at European level (UEFA, 2015, 2022).

Indeed, the competition to acquire the best players has sharpened among the Top 5 leagues, leading to a strong inflation in transfer fees and football players' salaries. According to the think tank High Pay Centre, "since the creation of the Premier League in 1992, top footballers' salaries have mushroomed, rising by 1,508% to 2010" (BOYLE, 2012). The field's significant salary inflation has been achieved through the support of private and institutional investors. FRANCK & LANG (2014) showed, for instance, that money injections from private investors

enabled FCs to implement riskier investment strategies, in order to maximize their sportive results.

In fact, the professional football field has been characterized by a strong interaction between FCs' economic and sportive dimensions. As illustrated by BIANCONE & SOLAZZI (2012), improving the competitiveness of a team usually leads to an increase in the number of wins, which positively impacts the FC's revenue streams through higher match day sales, higher sponsoring revenues and/or larger TV-rights for instance, and strengthens its attractiveness for other players. Regarding the German Bundesliga, the so-called 50+1 rule, preventing a single investor - be it private or institutional - from holding an absolute majority of shares, still prevails, despite the ongoing discussions in the football community regarding its suppression, which have found a new dynamic since the elimination of the country's national team in the first round of the last World Cup (WELT, 2018). In fact, 50+1-arguers have blamed the rule for having prevented professional FCs from reaching their full development potential (ABENDZEITUNG, 2018), which by the way might have appeared as one part of the explanation of the national team's sportive underperformance.

In order to assess the evolution of the Management Quality of professional FCs, we apply the FoMa Q-Score theoretical framework, developed by ZÜLCH & PALME (2017) and advanced by ZÜLCH, PALME & JOST (2020), which was derived from the *Balanced Scorecard* concept (KAPLAN & NORTON, *The Balanced Scorecard – Measures that drive performance*, 1992), and encompasses the following four dimensions:

1. *Sporting Success*
2. *Financial Performance*
3. *Fan Welfare Maximization*
4. *Leadership & Governance*

Therefore, we build on previous FoMa Q-Score editions and extend them for the season 2021/22. To our knowledge, it is the first attempt to comprehensively assess the Management Quality of professional FCs over the COVID-19 plagued season 2021/22.

The remainder of this study is structured as follows: chapter two lays out the theoretical foundation from the perspectives of both existing management literature and sport management theory. It concludes with the theoretical framework for assessing the management quality of FCs. Chapter three introduces the evaluation method and data analysis approach. Also,

this chapter takes a look at the specifications of the Bundesliga members in the 2021/22 season. The effects of the COVID-19 pandemic have been incorporated in the analyses, particularly in the assessment of the *Financial Performance* as well as *Fan Welfare Maximization* KPIs of the clubs, and thus have had an impact on the overall FoMa Q-score. The results regarding FCs' management quality are finally presented in chapter four. The latter is divided into two subsections, encompassing a longitudinal analysis of the 2021/22 season results for the Bundesliga as well as a discussion on the findings established previously and their limitations. Finally, chapter five summarizes the procedure which was conducted to derive the final results.

2 Literature Review and Scientific Approach

2.1 Preliminary Remarks

Whether the management of a company is considered successful or not generally depends on its level of goal achievement. Therefore, it is necessary to set up dimensions along which management performance can be assessed. Clearly, the objectives of enterprises vary strongly (financial vs. non-financial, internal vs. external, etc.) and it is challenging to come up with a universal approach. A framework which includes the most important factors seems to be most suitable for this analysis to cover the perspectives of a broad range of companies.

One management tool which fulfills this requirement is the so-called *Balanced Scorecard*, developed by ROBERT S. KAPLAN and DAVID P. NORTON in the early 1990s. The authors criticized the prevailing overemphasis of financial performance indicators and suggested a more balanced approach of financial and non-financial goals. The *Balanced Scorecard* is "perhaps the best known performance measurement framework [...]" (NEELY, GREGORY, & PLATTS, 1995, p. 96) and looks at performance from four different but highly interlinked perspectives (KAPLAN & NORTON, 1996) :

1. *Financial Perspective*
2. *Customer Perspective*
3. *Internal-Business-Process Perspective*
4. *Learning & Growth Perspective*

BRYANT, JONES, AND WIDENER (2004) were able to show a pyramidal hierarchy within the four dimensions, with the *Financial Perspective* being the highest one (see Figure 1). They conclude that the results of each perspective influence all higher-level perspectives. If, for example, a

company improves a certain attribute of the *Learning & Growth Perspective*, this directly affects the *Internal-Business-Process*, *Customer*, and finally *Financial Perspectives*.

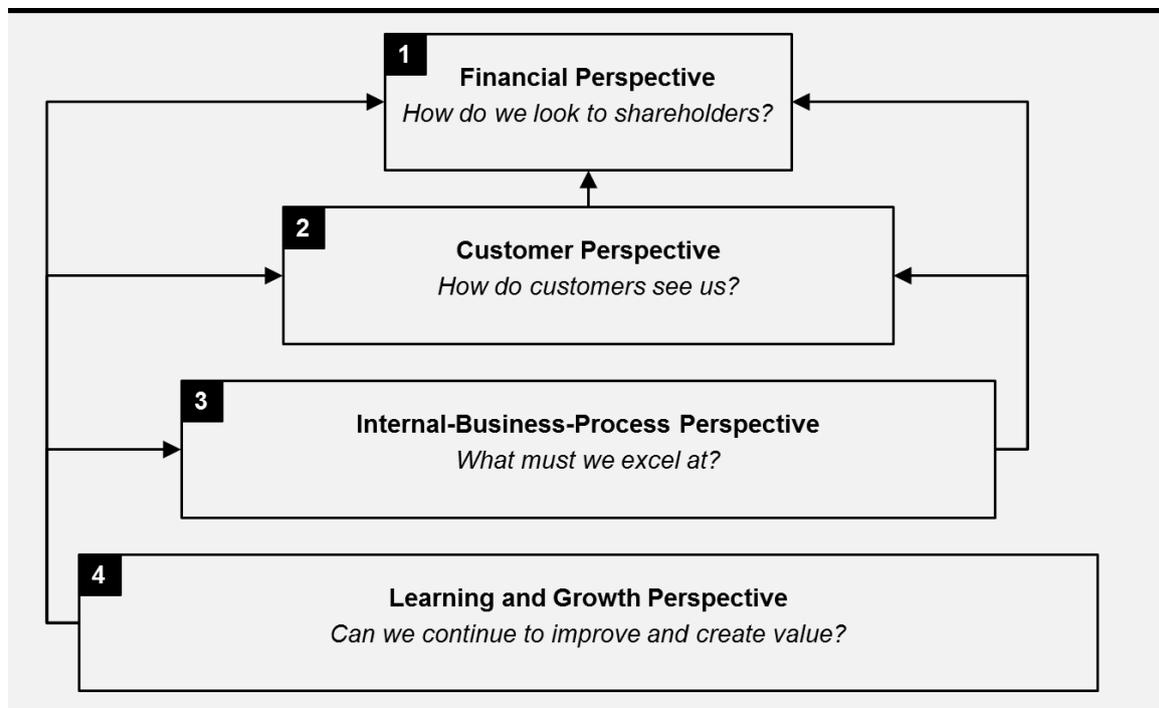


Figure 1: Balanced Scorecard Perspectives
(own illustration, based on BRYANT ET AL. (2004) and KAPLAN AND NORTON (1996, p. 9))

For the topic at hand, the *Balanced Scorecard* serves nicely as a guideline due to three main reasons. Firstly, it was initially designed for top managers to gain a comprehensive view of the most important business aspects, which is almost exactly what this analysis aims at, only this time coming from an external point of view (KAPLAN & NORTON, 1992, p. 71). Secondly, it is easily adjustable to the respective industry- or company-specific competitive environments, such as the football industry in the present case (KAPLAN & NORTON, 1993, p. 134). Thirdly, it is highly practical as it ranks top in “most used management tools” among European companies, enhancing this working paper’s relevance in terms of real life applicability (BAIN & COMPANY, 2013, p. 9).

The following literature review is guided by the *Balanced Scorecard*’s four dimensions, which are explained in more detail in the respective sections of the following chapter. The general management part utilizes the framework in its initial design, addressing traditional

companies with generic application. For the subsequent football-related analysis, several adjustments are to be made.

2.2 Literature Review of General Company's Management

At first, one has to obtain a broad understanding of the factors influencing the capability to manage large companies. Those insights are then used to transfer as much of this knowledge as possible on managing FCs. Since the general management literature is very comprehensive, the emphasis is put on meta-analyses¹ and selected, widely recognized academic papers. The review is structured by the *Balanced Scorecard's* dimensions, namely *Financial, Customer, Internal-Business-Process* and *Learning & Growth*.

2.2.1 Financial Perspective

The highest perspective in the above-mentioned pyramidal hierarchy and consequently the most important for managing most companies is the *Financial Perspective*. In the past, companies relied primarily on financial performance measures such as return on investment or economic value analysis. While those still play a vital role in modern companies, they are now broadly enriched with non-financial indicators (CHENHALL & LANGFIELD-SMITH, 2007, p. 266). In contrast to the other *Balanced Scorecard* perspectives, the *Financial Perspective* does not contain substantial levers which can be adjusted in order to improve performance. Rather, adjustments in the lower perspectives are necessary to drive overall financial success (BRYANT ET AL., 2004, p. 113).

KAPLAN AND NORTON (1996, pp. 48–50) reason that financial targets strongly depend on the respective stage of a company's life cycle. They distinguish three main stages: growth, sustain, and harvest. Growth businesses are situated at an early life cycle stage, in which their products and services still have a lot of growth potential. Their emphasis in terms of financial objectives lies on sales growth rates, indicating the success of expansion efforts. Companies in the sustain stage have a proven track record and are expected to defend or improve their market position by exploiting (re)investments. The focus of those businesses is on market share comparisons and profitability measures. Lastly, companies in a mature life cycle stage aim to harvest the investments from the two previous stages without significant new investments. They

¹ A meta-analysis is a "[...] statistical analysis of a large collection of analysis results from individual studies for the purpose of integrating the findings." (GLASS, 1976, p. 3)

aim to maximize cash flows, which can eventually be utilized for tapping into new markets. Certainly, companies may find themselves in between two stages or switching from one stage to another when new opportunities arise.

2.2.2 Customer Perspective

The *Customer Perspective* is the second dimension of the *Balanced Scorecard* and has a direct impact on the *Financial Perspective*. Companies increasingly understand the importance of the customer as source of financial success and consequently become more and more customer-oriented. Generally, customers tend to be concerned with matters of time, quality, performance, service, and cost (KAPLAN & NORTON, 1992, p. 73). Companies, therefore, aim to deliver products and services which fulfill those criteria and are consequently valued by customers. Valuable products and services are expected to enhance the main customer measures of satisfaction, loyalty, retention, and acquisition (KAPLAN & NORTON, 1996, p. 63). The influence of those customer-related factors on a company's financial performance is strongly supported by academic literature.

A popular study with Swedish companies indicated that there is a direct correlation between customer satisfaction and superior economic return (ANDERSON, FORNELL, & LEHMANN, 1994). By continuously improving their customer satisfaction measures, firms were able to achieve an average increase in net income of up to 12%. In addition to positive financial influences in terms of purchasing behavior (e.g. future-period retention) and accounting performance (e.g. profit margins), ITTNER AND LARCKER (1998) state that satisfied customers lead to an increase in the number of future customers due to positive word-of-mouth. This is especially valuable for modern companies in digitized environments, which are characterized by considerably higher customer acquisition costs than firms operating in the offline world (REICHHELD & SCHEFTER, 1998, p. 106). Therefore, companies have the ability to significantly reduce acquisition costs by satisfying existing customers and creating a buzz around their products and brands.

For companies it is essential to understand the sources of customer satisfaction in order to appropriately manage quality and communication. SPRENG, MACKENZIE, & OLSHAVSKY (1996) disentangled the antecedents of customer satisfaction and boiled them down to two major factors: expectations and desires. The authors define expectations as "beliefs about a product's attributes or performance at some time in the future" and desires as "the levels of attributes

and benefits that a consumer believes will lead to or are associated with higher-level values” (SPRENG, MACKENZIE, AND OLSHAVSKY, 1996, pp. 16–17). Exemplarily, a higher-level value could be protection, leading to a customer’s preference for products which contain attributes of this certain desire. According to the model, customers are satisfied when their perceptions of a product’s performance match or exceed both their expectations and desires.

When companies consistently manage to fulfill customers’ expectations and desires, they have the opportunity to involve them in a long-term relationship and thus maximize customers’ lifetime values. A customer’s lifetime value can be understood as “a series of transactions between the firm and its customer over the entire time period the customer remains in business with the firm” (JAIN & SINGH, 2002, p. 35).

2.2.3 Internal-Business-Process Perspective

In order to deliver the appropriate value propositions to customers and meet financial objectives, a company needs to derive pivotal internal functions, which the organization must master (KAPLAN & NORTON, 1996, p. 26). Four generic processes that practically all companies have in common are innovation, customer management, operations and logistics, and regulatory and environmental (KAPLAN & NORTON, 2001, p. 92). Their characteristics and influences on company performance are further described in the following.

Innovation processes concern the development of new products and services as well as the exploitation of new market and customer segments (KAPLAN & NORTON, 2001, p. 93). ADAMS, BESSANT, & PHELPS (2006, pp. 26–38) unfolded the necessary management processes for being a successful innovator, which, amongst others, include input management (e.g. resource and development intensity), knowledge management (i.e. generating and sharing ideas and information), and commercialization (i.e. market introduction of innovations). Tapping into new products or markets is often rewarded by positive impacts on sales, profitability, and market share developments, which was verified by multiple academic meta-analyses (e.g. HAUSER, TEL-LIS, & GRIFFIN, 2006; ROSENBUSCH, BRINCKMANN, & BAUSCH, 2011).

Customer management processes serve the purpose of “expanding and deepening relationships with existing customers” (KAPLAN & NORTON, 2001, p. 93). Both academics and practitioners are increasingly interested in customer relationship management in order to lengthen the interaction with existing customers and thereby raise customer lifetime values, mentioned in the *Customer Perspective* of the *Balanced Scorecard* (CHENHALL & LANGFIELD-SMITH,

2007, p. 271). REINARTZ, KRAFFT, & HOYER (2004) structure the customer relationship management process into three parts: relationship initiation, maintenance, and termination. Especially for the maintenance process, the authors confirm a positive correlation with profitability, measured in terms of return on assets. One particularly relevant possibility for modern companies to maintain and expand relationships with customers is utilizing social media as a communication tool.

For operation and logistic processes, managers are involved with issues concerning the efficiency increase of crucial processes, such as supply-chain management and asset utilization (KAPLAN & NORTON, 2001, p. 93). Simply put, operations management allows insights into the inputs, throughputs, and outputs of different processes (CHENHALL & LANGFIELD-SMITH, 2007, p. 268). Clearly, increasing (decreasing) outputs (inputs) while keeping inputs (outputs) constant leads to a higher productivity level and ultimately to better processes. As the processes become more efficient, profitability is increased and management is able to allocate relevant resources to other areas.

Regarding the last aspect of the *Internal-Business-Process Perspective*, regulatory and environmental processes, the management is engaged in positioning the company as “good corporate citizen” and thereby acting in a responsible way (KAPLAN & NORTON, 2001, p. 93). From a regulatory point of view, it is reasonable to expect from a company and its management to act within the general laws as well as the more industry-specific regulations. The subject of social performance has recently grown in importance and comprises “an organization’s behavior on society including the broader community, employees, customers, and suppliers” (CHENHALL & LANGFIELD-SMITH, 2007, p. 277). The strategy to follow in this context is described by the term “Avoiding Bad” (KLEINAU, KRETZMANN & ZÜLCH, 2016, p. 77). A meta-analysis, incorporating 30 years of cross-industry research, has proven that a higher level of corporate social performance goes hand in hand with an increase in financial success (ORLITZKY, SCHMIDT, & RYNES, 2003). However, there are also articles with findings that mitigate this relationship (e.g. MCGUIRE, SUNDGREN, & SCHNEEWEIS, 1988, p. 869).

2.2.4 Learning & Growth Perspective

The bottom of the pyramidal hierarchy within the *Balanced Scorecard* is the *Learning & Growth Perspective*. It influences the three higher dimensions and can, therefore, be considered as foundation and enabler of future success. The main components of the *Learning &*

Growth Perspective are intangible assets, which have significantly grown in importance in the *Balanced Scorecard* (CHENHALL & LANGFIELD-SMITH, 2007, p. 274). It was shown by CHEN, CHENG, AND HWANG (2005, p. 174) that intellectual capital positively influences profitability in present and future periods. KAPLAN & NORTON (2004, p. 45) synthesized three drivers of the perspective: human, informational, and organizational capital. Firstly, informational capital mainly concerns IT-systems and networks which support a company's strategy. Secondly, human capital relates to all relevant characteristics of the people employed in the company. These can range from relevant skills to specific know-how. Thirdly, organizational capital affects the company's capability to drive and retain change processes, which are required to implement a strategy, and comprises factors such as leadership, organizational structure, and culture. Since the IT-infrastructure is highly firm-specific and can only be poorly evaluated from an external perspective, the emphasis is put on the two latter drivers in the following.

As foundation for human and organizational capital, the principal-agency theory plays a major role in helping to understand the involved and interlinked factors. An agency relationship is defined as "a contract under which one or more persons (the principal(s)) engage another person (the agent) to perform some service on their behalf which involves delegating some decision making authority to the agent" (JENSEN & MECKLING, 1976, p. 308). The general idea of this theory is that ownership and control are separated. This is usually the case for listed companies, in which the shareholders act as principal and the board of directors as agent. Naturally, assuming both parties aim to maximize their own utility functions, they have diverging interests (e.g. shareholder value vs. revenue increase). Therefore, it is necessary to create incentives so that both parties strive for the same objectives and to set up monitoring mechanisms in order to control the agent by limiting their power. This leads to the existence of agency costs, which can be reduced by employing people with similar objective functions and establishing efficient governance² structures.

Generally, there are several ownership types which can be differentiated. One ownership type, institutional ownership³, and its influence on firm performance have received

² Corporate governance relates to all "procedures and processes according to which an organization is directed and controlled". (OECD, 2005)

³ Institutional ownership refers to "[...] the amount of a company's available stock owned by mutual or pension funds, insurance companies, investment firms, private foundations, endowments or other large entities that manage funds on the behalf of others." (INVESTOPEDIA, 2017)

considerable attention by scholars. For example, KRIVOGORSKY (2006) found in an investigation among continental European companies that the percentage of institutional ownership is positively related to profitability, measured as return on equity. It is argued that institutional governance increases the principal's monitoring capabilities. Building on this, ELYASIANI & JAI (2010, p. 619) add that not only the level of institutional ownership but also institutional shareholding stability has a positive effect on firm performance. They reason that the longer an institution is invested in a firm, the greater the principal's knowledge of and involvement in the firm can become.

The owners of a company or their elected representatives, often in combination with further stakeholders and independent persons, constitute the supervisory board, which monitors the management. The supervisory board is supposed to provide important resources, for example in the form of advice or external connections, rationally monitor the management, and elect the chief executive officer (HILLMAN & DALZIEL, 2003, pp. 384–386). Since independent board members⁴ have a less emotional point of view and are certainly equipped with external resources, it seems logical that a positive correlation between their representation in the supervisory board and financial performance is indicated by research (KRIVOGORSKY, 2006, p. 191). This line of argumentation was similarly used in a meta-analysis, investigating the relationship between supervisory board size and financial performance (DALTON, DAILY, JOHNSON, & ELLSTRAND, 1999)⁵.

2.2.5 Implications for Assessing Management Quality of Football Clubs

The review of the general management literature based on the *Balanced Scorecard's* four dimensions has shown that managing large companies heavily depends on a multitude of factors, ultimately determining a company's financial success in the long-term. A broad range of criteria from the *Financial, Customer, Internal-Business-Process, and Learning & Growth Perspectives* have to be considered both strategically and on a day-to-day basis. Successful management means that the critical success factors have been identified, are under continuous observation, and regularly lead to new impulses.

⁴ Independent board members generally do not have strong family or business ties to company management or controlling shareholders (KRIVOGORSKY, 2006, p. 187) .

⁵ DALTON, DAILY, JOHNSON, & ELLSTRAND (1999) found out that a higher number of board members leads to superior market-based and accounting-based financial performances, which is due to the increased access to resources, such as external capital, and the higher level of counseling to the executive team.

As much of the gained knowledge from this chapter as possible is to be transferred to managing FCs and incorporated in the final model to assess management quality of the Bundesliga teams. However, due to football industry's special characteristics, adjustments in terms of the relevant management dimensions as well as certain correlations within these dimensions are necessary.

2.3 Determination of Football Clubs' Managerial Dimensions

2.3.1 From Management to Sports: A First Reconciliation

The *Balanced Scorecard* was a very suitable and efficient framework to determine the relevant management dimensions of traditional companies and raise awareness for some of the interdependencies within them. Several academic investigations have been made, applying the *Balanced Scorecard* in sport-related settings (e.g. VINCK, 2009). Some of these studies utilized the tool's original four dimensions and thereby failed to take the special characteristics of FCs into consideration (e.g. BECKY, 2011, p. 30). Other studies adjusted the framework for the football environment but did not provide adequate explanations for the origin of the new perspectives and reasons for their incorporation (e.g. KELLER, 2008, pp. 313–316).

In one recent case, an adjusted version of the *Balanced Scorecard* was actually applied at a Bundesliga club in practice. When the former CEO of IBM Germany, Erwin Staudt, became president of Bundesliga member VfB Stuttgart in 2003, he implemented the internal management tool together with the management consulting firm Horváth & Partners (HANDELSBLATT, 2004). The aim of this initiative was to improve controlling and management capabilities of the FC by introducing goals and strategies for all dimensions and making the most important success factors traceable (WEHRLE & HEINZELMANN, 2004, p. 350). While this shows the theoretical and practical relevance of internally professionalizing an FC's management by applying the *Balanced Scorecard*, the study at hand strives to approach the topic from a strictly external perspective.

The equivalent of traditional companies' products and services on the part of FCs is the sporting performance. The initial question which traditional companies must ask themselves in the *Internal-Business-Process Perspective* of the *Balanced Scorecard* (see Figure 1) is: "What must we excel at?". FCs first and foremost have to deliver high quality on the pitch and excel at the sport-related factors enabling it. "An evaluation of management quality in FCs cannot be undertaken without incorporating a sport dimension because it constitutes the centerpiece

of each FC and is assessed by the public on a daily basis” (KELLER, 2008, p. 56). Therefore, the *Internal-Business-Process Perspective* is adjusted to a sport dimension, which better suits the management of football companies (**1st Dimension: *Sporting Success [SS]***).

The football literature is dominated by the broad consent that, in the case of modern FCs, sport objectives are accompanied by financial goals. Since the *Financial Perspective* is also part of the traditional *Balanced Scorecard*, there is no need to make any adjustments. The interdependence of sport and finance perspectives is extensively reviewed by KELLER (2008, pp. 49–81). The author states that the two perspectives are highly correlated and strongly depend on each other. An improvement in sporting performance goes hand in hand with an increase in financial performance due to factors such as higher merchandising and TV revenues or new sponsorship agreements. Resulting financial resources, in turn, can be used for investments in team squad or youth academy, which will under normal circumstances eventually lead to better sporting performance. Thus, sport and finance dimensions form a spiral, which can turn both directions, upwards and downwards. This effect has been verified by research. Examining the top 30 EU FCs (based on revenues), ROHDE & BREUER (2016, pp. 12–14) provide evidence for the highly positive influence of sporting performance on revenues. Simultaneously, the data shows superior sporting performance in terms of league points per game caused by additional team investments, which are enabled by an increase in revenues. Nonetheless, the relative importance of the two dimensions is not necessarily the same and has been subject to scientific investigations. In a sophisticated statistical model analyzing the behavior of professional FCs from the Spanish and English top leagues, the FCs are found to rather act in a win-maximization than profit-maximization way (GARCIA-DEL-BARRIO & SZYMANSKI, 2009). As German FCs directly compete with those from Spain and England and resemble them on many levels, there is no reason to assume any contrasting behavior in the Bundesliga. This assumption is supported by a recent survey among top managers from all 18 Bundesliga clubs (KAWOHL, ZEIBIG, & MANZ, 2016, p. 13). In the short-run, they report a strong emphasis on sporting performance while only aiming to break even in financial terms. In the long-run, optimizing business-related factors becomes increasingly important, though still subordinated to sporting success (**2nd Dimension: *Financial Performance [FP]***).

“The pressure is unbelievably high because every third day [we] are under review, [and] have to deliver in front of the eyes of the public. That’s not the case in any corporation in the

world.” (HORIZONT, 2017, p. 20) This quote by HANS-JOACHIM WATZKE, CEO of Borussia Dortmund, sums up the extraordinary status the public, and especially the fans, have in the football industry. Managers of the other Bundesliga clubs agree with this view by stating that “without fans, everything is nothing” (KAWOHL ET AL., 2016, p. 13). Especially in the modern, commercialized football industry, FCs are highly dependent on fans and spectators to generate merchandising, ticket, and TV revenues. Therefore, it can be concluded that the ultimate purpose of FCs is to serve their fans. Recent research supports the stance of a third dimension in the target system of FCs. In addition to win and profit maximization, MADDEN (2012) statistically discovered a further objective, namely fan welfare maximization. The author attributes this effect to the special characteristics adherent to FCs, in which “fans (or supporters) have a particular allegiance to a club, are the consumers of its products, and directly influence club policies” (MADDEN, 2012, p. 560). Fan welfare maximization orientation was particularly strong for Bundesliga clubs. The fundamental reason for this is the prevalent 50+1 rule in the German Football Association’s statutes (DFB, 2017). It determines that either at least 50% plus one additional vote of a club’s voting rights are in the hands of a registered association (e.V.) or similar organizational structures are in place, guaranteeing the same dominating status. Thereby, single external shareholders are prevented from accumulating too much power, which consequently leaves a lot of rights with the e.V. and the fans. The adoption of three dimensions in the target system of FCs has been used by other investigations as well (e.g. JUSCHUS ET AL., 2016a). Based on these findings, the *Customer Perspective* of the traditional *Balanced Scorecard* is slightly adjusted to an increased focus on fans (**3rd Dimension: Fan Welfare Maximization [FWM]**).

The previous remarks in this chapter have revealed a target system for FCs, consisting of the three dimensions *Sporting Success*, *Financial Performance*, and *Fan Welfare Maximization*. All three objectives have to be properly managed and weighed out against each other, which is becoming increasingly challenging in the complex football environment. Conventional wisdom has it that the professionalization of management skills and structures lags behind the intense commercialization in the industry (HOLZMÜLLER, CRAMER, & THOM, 2014, p. 69; HÜPPI, 2014, p. 86). Practical examples from the recent past, such as frequent changes in the leadership team of Schalke 04 or the recent discussion regarding board compositions at Mainz 05, support this view. Therefore, a fourth dimension, which is concerned with an FC’s

organizational and human capital, is part of the following considerations. It is largely in line with the *Learning & Growth Perspective* from the traditional *Balanced Scorecard*, but renamed for this specific purpose (**4th Dimension: Leadership & Governance [LG]**).

Figure 2 summarizes the findings from this chapter by illustrating the four relevant football clubs' managerial dimensions *Sporting Success*, *Financial Performance*, *Fan Welfare Maximization*, and *Leadership & Governance*. It represents a guideline for the following literature review of FCs' special characteristics. In order to analyze the particularities of FCs, evidence not only from the Bundesliga but from all European leagues is used.

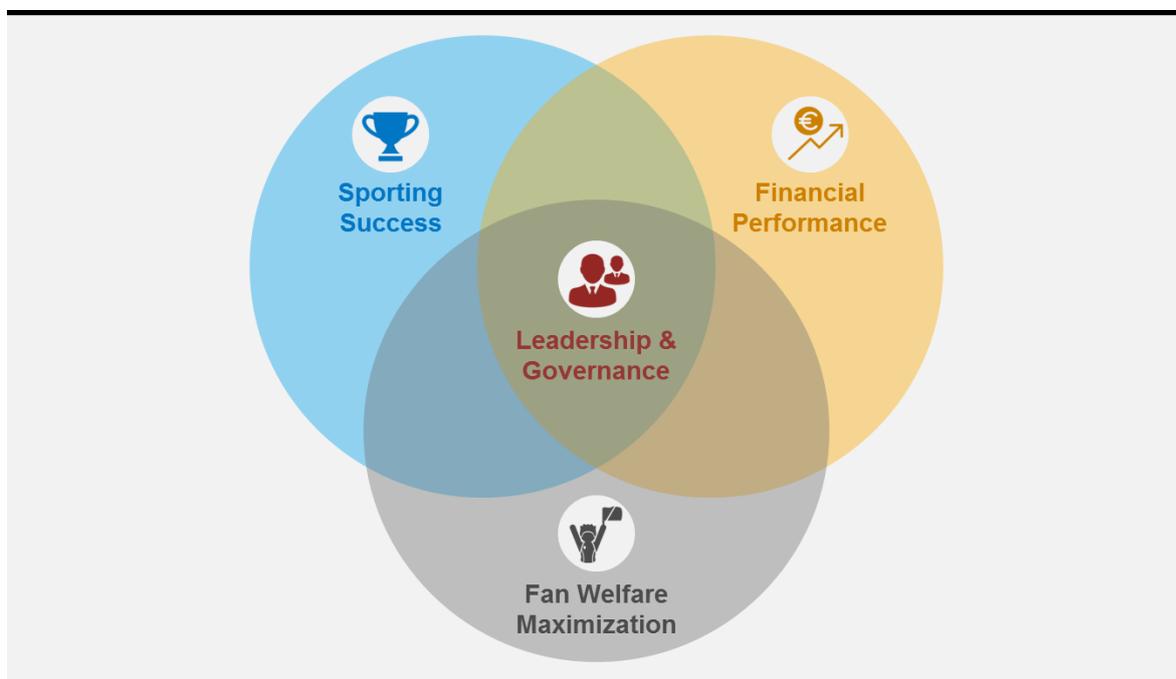


Figure 2: Managerial Dimensions of Football Clubs
(own illustration)

2.3.2 Sporting Success

The most important *Sporting Success* reference for each FC is its overall professional team performance. In the 2021/22 season, there are five main club competitions, which dominate the German football landscape. Nationally, the clubs compete in the Bundesliga, Germany's primary football league with 18 teams, and the DFB-Pokal, a knockout cup with 64 teams including all professional and additional amateur clubs. Internationally, six teams are able to qualify for either UEFA Champions League, UEFA Europa League and the newly established

UEFA Europa Conference League⁶ (KICKER, 2019), depending on their performance in the previous season.

As the Bundesliga position at the end of each campaign is one of the decisive influences on an FC's immediate future, it can be considered as the most significant club competition (KELLER, 2008, p. 117). Places one to six qualify for one of the three international club competitions; place 16 goes along with a relegation match against the third-place finisher from the 2. Bundesliga, while places 17 and 18 imply a direct relegation. The DFB-Pokal as Germany's second main club competition is a chance for FCs to earn additional revenues by reaching subsequent rounds and to qualify for the UEFA Europa League if they manage to win the cup⁷. Qualifying for the international club competitions significantly increases revenues but also requires additional player capacities because the number of matches and associated travels get higher.

Given the differences in financial resources, not all FCs pursue the same targets. According to KAWOHL ET AL. (2016, pp. 18–19), FCs can be categorized into four general groups, based on their strategic positioning. The first group, *International Players*, such as FC Bayern München and Borussia Dortmund, is active on the global transfer market and aims to keep up in financial terms with the international competition, especially from the English Premier League. *National Traditional Clubs* (e.g. Borussia Mönchengladbach and Eintracht Frankfurt) form the second group and are characterized by a strong regional rootedness as well as a long-term establishment in the Bundesliga. They aim to maintain their regional embeddedness and fight for the places behind the international players. The third group comprises the likes of SC Freiburg and 1. FSV Mainz 05, FCs which benefit from their strong youth academies and depend on regularly selling their best players to more successful teams. These so-called *Training Clubs* strive to become less dependent on big financial transfer injections by constant sporting success. Lastly, the group of *Project Clubs* has emerged in the recent past and managed to permanently settle in the Bundesliga. FCs such as RB Leipzig and VfL Wolfsburg are the result of long-term plans to establish FCs in the Bundesliga, often to satisfy business goals of the owners (e.g. Red Bull in Leipzig and Volkswagen in Wolfsburg). A complete overview of all FCs' group allocations can be found in Table 6.

⁶ Starting with the season 2021/22, UEFA introduces a third competition alongside the Champions League and the Europa League. The Europa Conference League is primarily intended to offer clubs from smaller countries the opportunity to play internationally.

⁷ In case the cup winner has already qualified for an international competition through its Bundesliga performance, an additional participation right for the UEFA Europa Conference League is allocated to the 7th place of the Bundesliga.

In addition to their individual targets, the FCs can distinguish the evaluation of their sporting performance along four time horizons, namely myo- (single matchday), micro- (one campaign), meso- (two to three campaigns), and macro-cycle (more than three campaigns) (KELLER, 2008, p. 120). This seems reasonable considering the example of an FC which has recently been promoted to the Bundesliga and has to balance out the long-term goal of establishing itself in the first division (macro-cycle) with the short-term goal of maximizing the points on each matchday (myo-cycle).

Two main ingredients of an FC's sporting success are its players and coaches. FRITZ (2006, p. 162) investigated the influences of these two factors on sporting performance. Amongst others, he figured out that investments in higher-quality players, which he measured in relative team salary, significantly lead to better performance on the pitch. Additionally, FCs benefit from a stable core team, meaning that a limited number of players, which are highly familiarized with their teammates and the tactical formations, are responsible for the majority of playing time. Regarding the employment of coaches, FRITZ found similar evidence. The number of managerial dismissals is negatively correlated to sporting success, which implicitly means that ensuring consistency by giving a coach enough time to implement his concept should be a priority of FCs. This is in line with a finding from AUDAS, DOBSON, & GODDARD (2002, p. 643), who prove the same effect in the English football leagues. They state that, while there is a higher variance in sporting performance after a within-season managerial change, overall, FCs perform worse in the remainder of the same season. Higher variance, therefore, explains why sometimes a managerial change within the season leads to an improved sporting performance. Nonetheless, from a strategic point of view a within-season change is suboptimal as the sustainable long-term development of the FC suffers (KAWOHL ET AL., 2016, p. 13). Other researchers have examined the influence of the coach's prior experiences on performance. DAWSON & DOBSON (2002, p. 480) figured out that in the English Premier League, there exists a positive correlation between a coach's career points ratio as coach and the reduction of technical inefficiencies, which ultimately results in higher sporting performance (FRICK & SIMMONS, 2008, p. 599).

Especially *Training Clubs*, but also those from the other three categories of FCs, aim to continuously develop their players and thus benefit from either increased sporting success or additional transfer revenues (RELVAS, LITTLEWOOD, NESTI, GILBOURNE, & RICHARDSON, 2010, p. 179).

The most systematic and integrated development approach is to accompany players from early on in an FC-internal youth academy and support them in becoming part of the professional team. Bundesliga clubs have recently intensified their efforts to seize this opportunity by almost tripling their investments in academies, from €55 million (2008/09 season) to €161 million (2020/21) (DFL, 2013, p. 23; DFL 2022b, p. 23). Not only did the investments grow in absolute terms during this period but also in relation to the total expenses, indicating the increased importance of developing players in-house. In 2001, the DFL, responsible for organizing and marketing the Bundesliga, decided that German FCs are obliged to operate youth academies in order to obtain a license for playing in the Bundesliga (DFL, 2021b, p. 7); In Germany, youth academies were regularly reviewed and certified by the external agency Double PASS until 2019 (DFB, 2015; DFL, 2019). For that purpose, eight categories are incorporated in the final score, with dimensions ranging from coaching staff to off-pitch support and education. One of the most important criteria within this certification process is efficiency and permeability, which amongst others measures the number of youth players reaching the professional team and the number of national players in the youth teams.

2.3.3 Financial Performance

In Germany, in addition to the youth academies, FCs' financials are also under examination as part of the DFL's yearly licensing procedure (DFL, 2021b, pp. 19–41). Financial insights are important factors for evaluating the FCs' capabilities of maintaining the professional team activities and, amongst others, include the analyses of income statements and balance sheets (LITTKEMANN, OLDENBURG-TIETJEN, & HAHN, 2014). Some researchers have argued that FCs are not mainly concerned with earning significant profits but rather with ensuring constant survival by any means (e.g. ANDREWS & HARRINGTON, 2016). Generally, this survival can be guaranteed either by operating profitably and thereby being able to react to unexpected developments or by having an investor on board who balances out potential losses. However, the *UEFA Financial Fair Play Regulations*, now called *UEFA Club Licensing and Financial Sustainability Regulations*, which are relevant for all clubs competing in international competitions and therefore play a vital role for the majority of Bundesliga clubs, have comprised a "break even" clause since 2014 (UEFA, 2015, 2022). This clause "require[s] clubs to balance their spending with their revenues and restricts clubs from accumulating debt". Capital from owners or related parties can only limitedly compensate for operating losses. Therefore, operating sustainably

in financial terms is a necessity for FCs and provides them with the ability to make investments in team and infrastructure, which ultimately improves sporting success. UEFA’s regulation will be even more tight starting with the 2022/23 season. The newly introduced regulatory adjustments in the *UEFA Club Licensing and Financial Sustainability Regulations* have come into force in June 2022. There will be gradual implementation over three years to allow clubs the necessary time to adapt and realign their financial strategy (UEFA, 2022).

Partly due to its own rigorous licensing procedure, the Bundesliga is considered one of the most stable European football leagues in terms of financial sustainability (LITTKEMANN ET AL., 2014, p. 1). The revenue and expenditure components of the income statement and their year-on-year development are illustrated in Figure 3 and Figure 4, respectively. Overall, the Bundesliga clubs accumulated revenues of €3.48 billion in the 2020/21 season, which is 8,6% less than in the first season impacted by Covid-19 (2019/20) and 13,6% less than in the record season 2018/19. The downturn is driven by the full impact of the COVID-19 pandemic, which was severely hitting club revenues throughout the season, especially due to the ghost game setting but also due to a general downturn of the market. Matchday revenues (-94%) were basically non-existent, while advertising revenues (-6%), merchandising revenue (-1%) as well as revenue from transfers (-21%) deteriorated as well. Even though media receipts were solidly increasing by 11% in total, these additional revenues could not offset the overall decline.

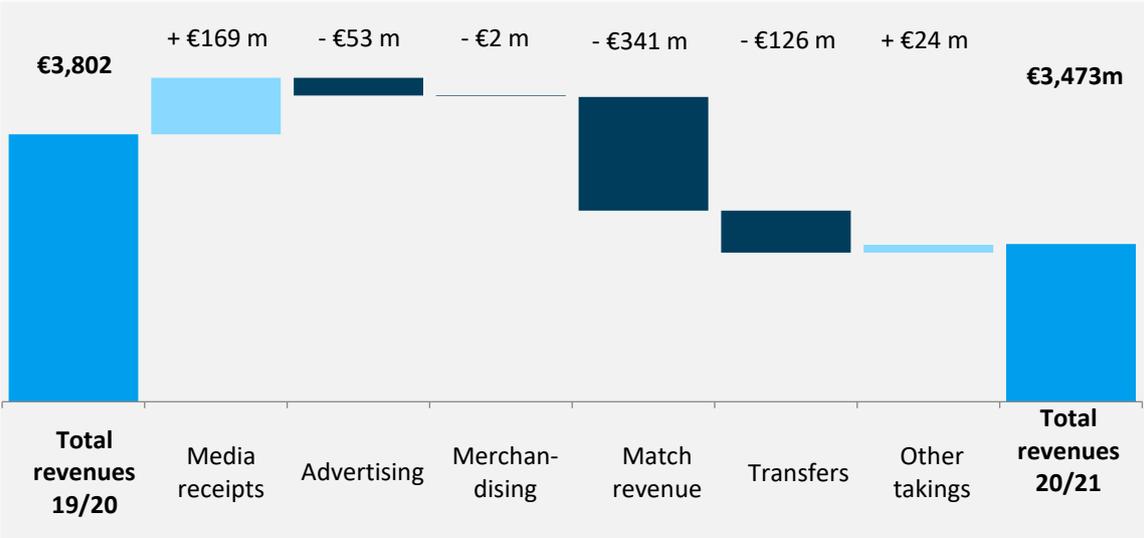


Figure 3: Bundesliga Revenue Mix 2020/21
(own illustration, based on DFL (2022b, 2021a))

In line with the decreasing revenues, the expenditures of all Bundesliga clubs also declined, however not to the extent of the revenues. The expenditures accumulated to €3.76 billion during the season 2020/21, a decrease by 5% compared to the previous season. This unbalanced development of revenues and expenditures resulted in a total after-tax result of €-288 million for the Bundesliga, the second negative after-tax result in a row and significantly up from the previous season's level (€-156 million, +85%). At the FC-level, only five out of 18 FCs generated a net profit in the season 2020/21 (DFL, 2022, p. 24), i.e. three less than in the season 2019/20. The expenditure side of FCs is dominated by investments in players and coaches (salaries and transfers), accounting for more than half of the total expenses (62.7%). Even though revenues of the clubs significantly declined, salaries for players and coaches increased by 8% compared to 2019/20. The clubs subsidized those increasing salaries by reducing transfer expenditures by 13% compared to the previous season. Expenditures of match operations were also reduced due to the ghost game setting (-21%), however not nearly in line with the matchday revenue decrease. The remainder of expenditures consists of administrative staff, investments in young players, amateurs, and academies, which both remained relatively stable and a rather large block of other expenditures which declined significantly as well.



Figure 4: Bundesliga Expenditure Mix 2020/2021 (own illustration, based on DFL (2022b, 2021a))

Revenues and expenditures are highly dependent on the other two dimensions of the target system, *Sporting Success* and *Fan Welfare Maximization*. FRITZ (2006, p. 184) found out

that the sporting performance of current and previous seasons has a significant effect on revenues. This is intuitive, as a higher rank at the end of the season leads to increased media revenues and attracts new sponsors. The investigation also reveals the positive influence of a larger fan base on the financial performance, which can be explained through higher match and merchandising revenues as well as an increased attractiveness for sponsors.

Next to the analysis of the income statements, a thorough examination of the Bundesliga clubs' balance sheets also reveals important financial insights. Key performance indicators such as the equity ratio (total equity in relation to total assets) or total debt level allow for crucial conclusions about the financial health of an FC. This information is of high interest for several stakeholders, such as sponsors, fans, or public authorities in order to assess an FC's long-term survival capabilities (ANDREWS & HARRINGTON, 2016, p. 69). However, due to the varying legal forms and ownership structures, the transparency level of FCs is highly diverse. For example, German FCs with the legal form of e.V. have very few disclosure obligations besides basic revenue and expenditure records (DEUTSCHER BUNDESTAG, 2012, p. 8). While some FCs proactively pursue an open and transparent disclosure policy, others hide their financials in their owners' annual reports or simply pass on any detailed, financial publications. This situation of asymmetric information within the industry ultimately increases the risk of mismanagement (DEUTSCHER BUNDESTAG, 2012, p. 10).

In the football industry, financial performance is also closely related to an FC's brand. BAUER, SAUER, & SCHMITT (2005) found out that brand equity, which can be defined as "the added value a brand contributes to a product or service" (p. 498), has a significantly positive effect on FCs' economic success. Especially brand awareness, incorporating a brand's recall and recognition measures, plays a vital role in determining financial success as one of brand equity's main components. In addition, a second study shows that brand equity dimensions, in this case consumers' associations with regards to a club (brand image), positively influence fan loyalty, an important factor of the *Fan Welfare Maximization* dimension (BAUER, STOKBURGER-SAUER, & EXLER, 2008, p. 220). Establishing, maintaining, and fostering strong, positive relationships with their fans is a crucial challenge for FCs and can be improved by maintaining an appropriate brand image.

The topics of transparency and branding are likely to increase in the near future as FCs strive to exploit international markets around the world. When getting involved in activities

abroad, FCs aim to build up and maintain an international brand, which then can be monetized in the form of new sponsorship deals and additional merchandising revenues (KAWOHL ET AL., 2016, p. 20). *International Players* as defined in Chapter 2.3.2 have already started to set up own offices in different parts of the world, including Borussia Dortmund in Singapore or FC Bayern München in New York City (BORUSSIA DORTMUND, 2014; FC BAYERN MÜNCHEN, 2014). But also smaller clubs like Eintracht Frankfurt, which already went on trips to the United States, have identified the financial opportunities of an internationalization strategy (EINTRACHT FRANKFURT, 2017). To enter new markets, KAWOHL ET AL. (2016, pp. 21–22) differentiate four approaches, which are the clubs' physical presences in local markets (e.g. training camps), use of digital media (e.g. Social Media channels with worldwide reach, English YouTube channels), cooperation with global sponsors (e.g. joint international events of clubs and main sponsors), and support of youth development programs (e.g. local football schools).

2.3.4 Fan Welfare Maximization

With trends like the growing internationalization, the balancing act between commercialization and satisfying traditional fans becomes an increasing challenge for FCs (QUITZAU, 2016). So far, the Bundesliga clubs were able to maintain close ties with their most loyal fans, the members, which is indicated by continuously increasing membership numbers since the 1990s (PRIGGE, 2015, p. 2). The author emphasizes in his article the special relationship between German FCs and their members. He argues that, historically, the Bundesliga consisted solely of registered associations (e.V.), in which the members had significant voting influence via the members' assembly, the clubs' central decision bodies. In the 2021/22 season, only three FCs with the traditional form remain, whereas the remainder operates under different corporation forms. However, due to the 50+1 rule, briefly described in the previous chapter, the members still have substantial influence in FCs' decision-making processes.

Not only do the members have decision-making power, they also regularly enjoy priority access to match tickets. Consequently, many of the spectators in the stadiums are also club members. Therefore, the general match attendance can point out the overall satisfaction of the members with their preferred FCs. In terms of match attendance, the Bundesliga as a whole was considered the strongest football league worldwide before the COVID-19 pandemic led to games operated without spectators (DFL, 2020, p. 40). In the last full pre-pandemic campaign 2018/19, on average, 42,738 spectators attended the Bundesliga matches.

Actually, one specific study investigates the relationship of an FC and its fans in detail. HEIDBRINK, KOCHANEK, BRANDS, & JENEWEIN (2014) had a closer look at former Bundesliga member Schalke 04. Interviews with both club and management representatives were conducted and revealed that the dependence goes both ways. On the one hand, fans feel highly emotional about their preferred FC and consider it as part of their lives. On the other hand, these strong feelings and extraordinary levels of loyalty are important drivers for the FC's brand, which makes maintaining a stable fan base a key priority. One way to foster relationships with their fans is for FCs to regularly communicate and interact with them.

The fans as brand assets of FCs and the members as their democratic basis require a carefully planned communication approach to strengthen trust and loyalty levels as well as to build up understanding for the FCs' actions (BURK, GRIMMER, & PAWLOWSKI, 2014, p. 34). In their study, the researchers investigate the sources used by more than 11,000 members of former Bundesliga club Hamburger SV to receive information. The results reveal that, with regards to club-owned communication tools, the webpage (more than 90% of members at least sometimes visit it) is still the most commonly used source. However, with an increasing number of digital natives caused by demographic change in Germany, it is also observed that information through social media channels and in mobile applications is continually gaining in importance (SPOAC, 2017).

When FCs engage in social media activities, they aim to establish and maintain emotional fan loyalty, which is manifested in FC-specific fan cultures and ultimately translates into stronger brands (KAINZ, OBERLEHNER, KREY, & WERNER, 2014, p. 45). According to the authors, four ingredients for successful social media communication can be differentiated, namely multi-mediality, interaction, cross-mediality, and activation. In practical terms, this means that FCs should offer their fans exclusive content in different forms (i.e. text, photo, video, etc.) and on multiple channels (e.g. Facebook, Instagram, LinkedIn, Tiktok), encouraging them to get involved.

Aside from social media, FC managers see a lot of growth potential in digital innovations along the customer journey (DELOITTE, 2021, p.3; KAWOHL ET AL., 2016, pp. 25–30). These digital innovations can range from stadium experience enhancements (e.g. free stadium WLAN for spectators) to the introduction of entirely new fan experiences (e.g. provision of virtual reality-enabled videos). While the aforementioned approaches are rather closely linked to an FC's

core business, other innovations (e.g. involvement in eSports activities) are less so. At the moment, club investments into digital innovativeness have slowed a bit in contrast to previous years, as Bundesliga members still recover from the financial burden of the COVID-19 pandemic. However, activities and investments in this field are expected to resume fast and significantly short-term post-COVID, as new business models are expected to raise additional proceeds outside the core business of football, which supports FCs to diversify their revenue streams. This is confirmed by DELOITTE (2021, p. 3), according to which exploiting new business areas through digital business models and new technologies is the top requirement among sport managers in order to maintain future viability. Therefore, it seems likely that those FCs which experiment with digital innovations will eventually be rewarded for those efforts.

FCs can also demonstrate innovativeness in a completely different field, which has increased in importance with the ongoing commercialization of the industry. The topic of corporate social responsibility (CSR) in modern football can be seen as a counterbalance to the partly irrational economic and ecologic developments (LAUFMANN, 2016). LAUFMANN, who holds the position of director of CSR as well as fan and member support at SV Werder Bremen, created a case study about CSR at the FC, in which she quotes Klaus-Dieter Fischer, initiator of many CSR activities. The club's honorary president stated that SV Werder Bremen's aim is to "give something back to the region" (LAUFMANN, 2016, p. 202). MEYNHARDT & FRANTZ (2016) demonstrate that an FC's ability to contribute to the public good indeed goes far beyond its sporting success. FCs can have a significant impact on deeply-rooted regional aspects of culture and identity, as shown in their investigation of Bundesliga member RB Leipzig. But CSR is not limited to social aspects only. Sustainability in a broader sense, including ecological and economic factors as well as good corporate governance, needs to be covered holistically to provide benefits to all stakeholders of a FC (DELOITTE, 2021, p.54-56). The importance of this topic is unambiguous, evidenced by the fact that first studies of the FCs' sustainability activities have been published, with the ones from IMUG (2016), a consultancy firm for social and ecological innovations, and DELOITTE (2019) being by far the most comprehensive ones. FCs benefit from CSR activities by satisfying external and internal stakeholders, which can lead to concrete implications such as fan base increase or acquisition of new sponsors (LAUFMANN, 2016). The topic of CSR has gradually received more and more attention in recent years within the league, cumulating in the announcement of the results of the taskforce "Zukunft

Profifußball”, which address sustainability as the number 1 priority for the league and its clubs in this decade (DFL, 2021c, p.3). In an annually published ranking by RESPONSIBALL, the Bundesliga ranked 1st for the season 2019/20 (RESPONSIBALL, 2020) in a comparison of football leagues globally, which serves as an excellent base for further progress in the area of CSR. This leading position should be further strengthened as the Bundesliga announced to include holistic sustainability criteria into their regular licensing procedure and to regularly audit the clubs’ adherence to those criteria starting with the 2023/24 season (DFL, 2021d).

2.3.5 Leadership and Governance

As the previous chapters have shown, the target system of FCs has become increasingly sophisticated in the recent past. Finding the right balance among the three targets and satisfying their respective stakeholders heavily depends on the leadership structures of the FCs (KELLER, 2008, p. 315). In addition, through increases in financial resources, political power, and public interest, the risk of agents’ opportunistic behaviors has grown, making enhanced governance mechanisms inevitable (JUSCHUS ET AL., 2016a, p. 212).

The leadership of German FCs generally consists of an executive and a supervisory board, which are separated bodies. In this aspect, the Bundesliga clubs differ from many European competitors (see for example FC Barcelona, Manchester United F.C., or Juventus F.C.). These clubs combine executive and supervisory functions in a combined board of directors. Therefore, the findings of DIMITROPOULOS & TSAGKANOS (2012), who investigated the single-bodied boards of directors of 67 European FCs, partly concern both executive and supervisory boards in the case of German FCs. The authors demonstrate a significant positive effect of increased board size and board independence on the financial performance of FCs. These findings, as well as the reasoning behind it, are largely in line with those of the general management literature in Chapter 2.2, suggesting that general management criteria of leadership and governance are also applicable for FCs. In their corporate governance ranking approach of Bundesliga clubs, JUSCHUS ET AL. (2016a) allocate the highest importance to the executive and supervisory board dimension, further indicating the major relevance of the two leadership bodies.

Usually, executive and/or supervisory boards contain owners of the FCs, who directly or indirectly want to keep track of the decision-making processes and have their say in important strategic moves. In the Bundesliga, besides the registered associations and public investors (in

the case of Borussia Dortmund), three general types of owners can be differentiated (JUSCHUS ET AL., 2016a, pp. 215, 218): private individuals (e.g. Dietmar Hopp at TSG 1899 Hoffenheim), financial investors (e.g. Tennor Holding at Hertha BSC), and strategic investors (e.g. Adidas at FC Bayern München). These shareholder types have diverging agendas and, to date, cannot be unambiguously assessed with regards to their performance contributions. However, what has been proven to be a significant driver of success is the general presence of investors (BIRKHÄUSER, KASERER, & URBAN, 2015). In their study of more than 300 international FCs, the researchers find additional investor funds to positively influence squads' market values and ultimately overall sporting performances. This finding resonates with DIMITROPOULOS & TSAGKANOS (2012, pp. 291–292), who provide evidence that higher managerial and institutional ownership levels are associated with better financial performance. They reason that managers and institutions as shareholders contribute to reductions in agency costs and enhanced decision-making processes.

The possibility of and attractiveness for external investors to acquire shares in an FC partly depends on its legal form. As of the 2021/22 season, four legal forms, which to some degree differ with regards to their legal obligations, are prevalent in the Bundesliga (see LANG (2008, pp. 56–70) for a detailed discussion of the legal forms): AG (e.g. Bayern München), e.V. (e.g. 1. FSV Mainz 05), GmbH (e.g. VfL Wolfsburg), and GmbH & Co. KGaA (e.g. Hertha BSC). Borussia Dortmund GmbH & Co. KGaA constitutes an exception, as it is the only German Bundesliga club which is publicly traded. Table 6, amongst others, provides an overview of the legal forms of all Bundesliga members. JUSCHUS ET AL.'S (2016b, 2022) corporate governance ranking allows for assessing the legal status of Bundesliga clubs, including the fact whether they are publicly-listed or not, according to their contribution to good corporate governance. It is evident that a publicly-listed football company secures the highest level of corporate governance, which is mainly due to high formal requirements. Excluding the case of Borussia Dortmund, the study reveals that the legal form AG can be considered the strongest with regards to corporate governance, followed by GmbH & Co. KGaA and GmbH. The least efficient legal form is e.V., which can be attributed to the lack of legal obligations. While the pattern of the legal forms' varying capabilities to contribute to good corporate governance is evident in the data, Bundesliga clubs can nonetheless implement high governing standards with less efficient legal forms.

2.3.6 Intermediate Result

This chapter has derived the main dimensions determining the success of an FC: *Sporting Success, Financial Performance, Fan Welfare Maximization* and *Leadership & Governance*. Detailed insights into each of these dimensions have been provided. The variety of factors, influencing the dimensions, turns the management of FCs into a sophisticated challenge. Successful management means balancing the dimensions and achieving the objectives within them.

As this study aims to establish a method for evaluating management quality, the next chapter transfers the achieved findings into an evaluation approach, based on the theoretical remarks from this chapter and enriched by industry expert insights.

3 Evaluation Procedures and Data Foundation

3.1 Preliminary Remarks

In the previous chapter of this study, we have analyzed both general company management and specific football management literature. The lessons learned from the extensive theoretical review allowed for the creation of a preliminary evaluation framework (see the high-level framework in Figure 2), which served as a basis for discussions with industry experts.

3.2 Validation Using Expert Interviews

In order to enrich theoretical with practical insights as well as to validate the findings, semi-structured interviews with ten industry experts were conducted from February to March 2017. In semi-structured interviews, an interview guideline with a list of questions or topics to be covered is available, “but there is flexibility in how and when the questions are put and how the interviewee can respond” (EDWARDS & HOLLAND, 2013, p. 29 and BOGNER, LITTIG, & MENZ, 2009). This interview design was beneficial for the present case as it left space for taking into account the interviewee’s different areas of expertise and for developing new ideas. Interview partners were high-level representatives of FCs (Borussia Dortmund, Eintracht Frankfurt, FC Bayern München, Hamburger SV, RB Leipzig), media (11 Freunde, FINANCE) and further external stakeholders (Lagardère Sports Germany, Puma). A detailed list of the interview partners can be found in Appendix I. The interviews were conducted via phone in German and lasted on average 36 minutes. Interviewees were presented with the preliminary evaluation framework and were asked to provide feedback with regards to completeness of the model,

relative importance of the four dimensions, and specific ideas for the measurement of sub-categories. Practitioner feedback was then calibrated with the existing theoretical groundwork. Ultimately, both input sources were combined to create the final evaluation model. In a more recent follow-up study, CRUZ, SCHREGEL & ZÜLCH (2022) were able to confirm the score's robustness based on further interviews with experts from the football industry.

3.3 Football Management Evaluation Framework (FMEF)

Figure 5 depicts the final evaluation framework, from here on referred to as Football Management Evaluation Framework (FMEF). The FMEF consists of the four dimensions described in Chapter 2.3, which are specified by three sub-dimensions each. The relative importance of each dimension was determined by the average relative importance given by all expert interviews on the one hand and the authors' personal impression based on the extensive literature review described in the previous chapter on the other hand. The two factors contributed equally to the final value, respectively the final score, referred to as Football Management (FoMa) Q-Score. In general, the difference between experts' and authors' opinions didn't exceed a value of 6% in any of the dimensions. However, while the experts put slightly more emphasis on *Sporting Success* and *Fan Welfare Maximization*, the authors have gained the impression that, within academic literature, *Financial Performance* and *Leadership & Governance* strongly increase in importance. **The chosen middle course allocates the following fractions to the dimensions: 40% *Sporting Success*, 25% *Financial Performance*, 17.5% *Fan Welfare Maximization* and 17.5% *Leadership & Governance*.** The sub-dimensions are briefly introduced before the FMEF gets filled with key performance indicators (KPI) in the following chapter.

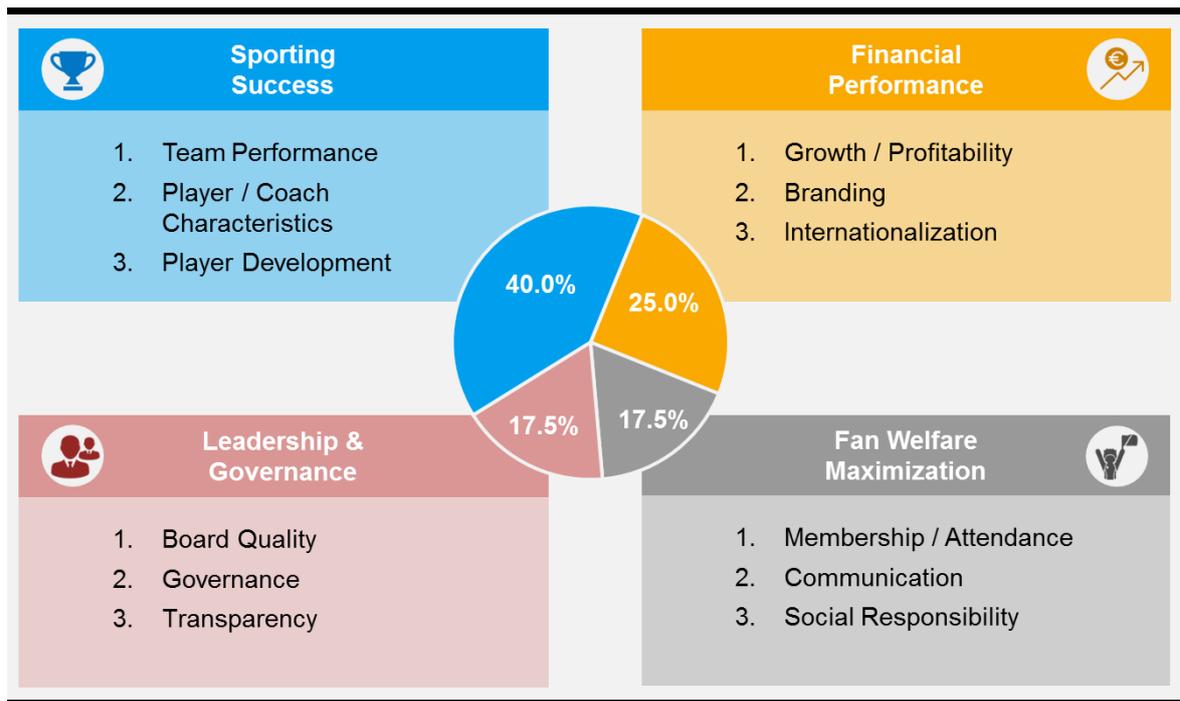


Figure 5: Football Management Evaluation Framework
(own illustration)

The first dimension, ***Sporting Success***, emerged as the most important one in both expert interviews and authors' literature review. Consequently, it accounts for the largest fraction of the total **FoMa Q-Score (40%)**. The sub-categories *Team Performance*, *Player/Coach Characteristics*, and *Player Development* are included in this dimension.

- **Team Performance (TP):** The ultimate sporting achievement of clubs is the on-pitch performance. This sub-dimension evaluates performance levels in the national and international competitions along different time horizons.
- **Player/Coach Characteristics (PCC):** Team performance is heavily dependent on a variety of individual characteristics. This sub-dimension looks at the player- and coach-related KPIs.
- **Player Development (PD):** Refining (youth) players is an important aspect of the sport-related performance of FCs and improves the future outlook. This sub-dimension assesses players' development opportunities within FCs.

The second dimension, ***Financial Performance***, is worth **25%** of the **FoMa Q-Score** and comprises the sub-dimensions *Growth/Profitability*, *Branding*, and *Internationalization*.

- **Growth/Profitability (GP):** The majority of FCs currently find themselves between growth and harvest stages according to the definition in chapter 2.2. This sub-dimension takes a closer look into the FCs' financial information.
- **Branding (B):** A strong brand is one of the keys to attract sponsors and supporters. This sub-dimension investigates the strength of FCs' brands.
- **Internationalization (I):** The football business increasingly takes place on a global scale. This sub-dimension examines FCs' internationalization efforts.

The third dimension, **Fan Welfare Maximization**, amounts to **17.5%** of the total **FoMa Q-Score**. It contains the sub-categories *Membership/Attendance*, *Communication*, and *Social Responsibility*.

- **Membership/Attendance (MA):** Fulfilling expectations and desires of their customers is of highest importance for FCs. This sub-dimension scrutinizes fan and member metrics.
- **Communication (C):** FCs can maintain and foster their fan bases by regular interaction, which in today's football environment can be facilitated by online technologies. This sub-dimension rates FCs' (digital) communication efforts.
- **Social Responsibility (SR):** Through their high impact on society, FCs bear high levels of responsibility. This sub-dimension measures sustainability efforts along several criteria.

The fourth dimension, **Leadership & Governance**, adds the remainder of **17.5%** to the total **FoMa Q-Score** and is formed by the sub-dimensions *Board Quality*, *Governance*, and *Transparency*.

- **Board Quality (BQ):** The leadership bodies are important to calmly and consistently steer FCs and determine their future directions. This sub-dimension assesses specific characteristics of both executive and supervisory boards.
- **Governance (G):** The FCs' governance capabilities are crucial to prevent managerial misconduct and ensure that the FCs stick to the given rules of the game. This sub-dimension looks at the predefining bases of governance mechanisms.
- **Transparency (T):** Publicly disclosed processes and responsibilities have the ability to create trust among stakeholders. This sub-dimension evaluates the disclosure policies of the FCs.

The FMEF aims to deliver a comprehensive view on the complex management system of FCs. It relies on academic evidences and has been challenged and modified with the support of industry experts. After the derivation of the FMEF including its four dimensions and 12 sub-

dimensions, the next step is to describe the methodological approach on how to measure each sub-dimension and how this is transferred into a management quality ranking, namely the FoMa Q-Score.

3.4 The Football Management (FoMa) Q-Score

3.4.1 KPIs - Basics

In order to obtain a score for each of the FoMa Q-Score's four dimensions, the sub-dimensions needed to be filled with measurable KPIs. The following criteria, based on GLOBERSON (1985, p. 640) but adjusted for the specific context of this study, were applied to derive and explain the KPIs:

1. KPIs must have a close relation to their respective dimensions.
2. KPIs must allow a direct comparison among FCs.
3. The purpose of each KPI must be clear.
4. Data sources and calculation methods of KPIs must be clearly defined.
5. Ratio-based KPIs are preferred to absolute numbers.
6. FCs' management teams should be able to control each KPI.
7. KPIs should be derived through discussions with relevant stakeholders.
8. Objective KPIs are preferred to subjective ones.

Many investigations in the football environment rely on FCs which have a highly transparent disclosure policy and therefore allow for a comprehensive comparison of very specific KPIs (cf. DIMITROPOULOS & TSAGKANOS (2012)). However, this approach is only suitable if the object of investigation is rather broad and flexible, for example when analyzing the European football market in general. In those cases, a selection of which FCs to include and exclude can be undertaken, eliminating the problem of non-available data. Since this working paper is concerned with the management quality of the German Bundesliga in its entirety, the strongly varying transparency levels of FCs have to be taken into account. The consequence is that creating a level playing field⁸ becomes a challenge in itself. It is not possible to purely rely on official statements, such as annual reports or detailed press statements. Therefore, the

⁸ Level playing field is a philosophical approach to describe the equality of opportunity (STANFORD UNIVERSITY, 2015). In this working paper, the level playing field notion is expanded and refers to a data base which provides data points for all FCs. Thereby, all FCs have the same opportunity to score and the results are not distorted by the absence of information.

general aim in this study is to include a broader range of KPIs, which can be measured for all FCs. In doing so, realistic scores can be approximated.

In total, 66 KPIs were measured in the four dimensions, with a maximum of 22 KPIs in *Fan Welfare Maximization* and a minimum of seven KPIs in *Leadership & Governance*. Due to the special characteristics of the scoring model, described in more detail in Chapter 3.5, the mere quantity of measured KPIs does not influence the final results. The KPIs were derived based on a mix of traditionally applied indicators (cf. KPMG (2017) for a selection), suggestions by the industry expert interview partners, and authors' ideas to approximate the quality of certain FCs' management areas. All measured KPIs are listed in Table 1 to Table 4 on the following pages. The first four columns of each KPI show the corresponding sub-dimension, an ID, a brief definition, as well as an indication as to why a certain KPI was incorporated in the final FoMa Q-Score. Since the KPIs vary in their importance, each of them was allocated a low, medium, or high priority (based on the authors' personal opinion). This allows in a subsequent step to determine different weights for each of the priorities. It was the authors' goal to mainly use KPIs for which a clear preference regarding the desired outcome exists. Nonetheless, different perceptions may exist, making it necessary to detail the order of the KPI outcome (ascending [lower score preferable] or descending [higher score preferable]). Lastly, the tables state the underlying data sources.

3.4.2 Data Collection for the German Bundesliga

For the data collection process, a purely external view was presumed. In the months of June and July, extensive desk research was conducted. June 30th marked the final evaluation day for the *Sporting Success* dimension. The season was finished at this time and no competition (in both senior and junior championships) was outstanding.⁹ All football-related data points were derived from major German football webpages (e.g. KICKER (2022) or TRANSFERMARKT (2022)), FCs' own webpages (see chapter 6.4 for an overview), and industry reports (e.g. UEFA (2022), FC PLAYFAIR (2022) or TECHNISCHE UNIVERSITÄT BRAUNSCHWEIG (2018, 2019)). Further sources (e.g. SIMILARWEB (2022), FANPAGE KARMA (2022), or WHOSCORED (2022)) were used to determine football non-related values, such as webpage or Facebook activities.

⁹ Further information on the described KPIs (calculations, notions, and explanations necessary to obtain a full understanding of each KPI's origin) can be obtained on request (hennig.zuelch@hhl.de).

Table 1: Measured KPIs – Sporting Success
(own illustration)

Measured KPIs – Sporting Success (SS) – 1/2							
Sub-dimension	ID	KPI	Definition	Reasoning for Inclusion	Priority	Order	Source
Team Performance (TP)	TP ₁	Bundesliga performance (micro-cycle)	Points accrued in the current season	Indicates the team performance in the current Bundesliga season	High	Descending	Transfermarkt (2022)
	TP ₂	Bundesliga performance efficiency (micro-cycle)	Points accrued per professional squad budget in the current season	Indicates the team performance in the current Bundesliga season taking into account the professional squad budget	Medium	Descending	Transfermarkt (2022); DFL (2022a)
	TP ₃	Bundesliga performance (meso-cycle)	Avg. number of points accrued in the last three seasons	Indicates the team performance in the last three Bundesliga seasons	Medium	Descending	Transfermarkt (2022)
	TP ₄	Bundesliga performance efficiency (meso-cycle)	Avg. number of points accrued per squad market value in the last three seasons	Indicates the team performance in the last three Bundesliga seasons taking into account the squad market value	Low	Descending	Transfermarkt (2022)
	TP ₅	DFB-Pokal performance (macro-cycle)	Avg. number of DFB-Pokal matches won in the last five seasons	Indicates the team performance in the last five DFB-Pokal seasons	Medium	Descending	Transfermarkt (2022)
	TP ₆	International performance (macro-cycle)	Average UEFA club coefficient in the last five seasons	Indicates the team performance in international competitions in the last five seasons	Medium	Descending	UEFA (2022)
	TP ₇	Title performance (macro-cycle)	Number of titles won in the last five seasons	Indicates the team performance in terms of national and international titles won in the last five seasons	Medium	Descending	Transfermarkt (2022)

Measured KPIs – Sporting Success (SS) – 2/2							
Sub-dimension	ID	KPI	Definition	Reasoning for Inclusion	Priority	Order	Source
Player / Coach Characteristics (PCC)	PCC ₁	Player performance	Players' average rating according to a WhoScored evaluation	Indicates the performance levels of individual players	Medium	Descending	WhoScored (2022)
	PCC ₂	Players' mean age	Mean age of the professional squad	Indicates the sporting development potential of the FC's players	Medium	Ascending	Transfermarkt (2022)
	PCC ₃	New players' performance contributions	Average deviation of team average rating and top-3 new players' ratings	Indicates the performance levels the main transfer acquisitions add to the FC	Low	Descending	WhoScored (2022)
	PCC ₄	Top players' contract lengths	Average remaining contract length of top-5 players	Indicates the longevity of the FC's most valuable players and thereby the future stability of its core team	Low	Descending	Transfermarkt (2022)
	PCC ₅	Head coach job security	Average days on the job per head coach in the last five seasons	Indicates the FC's continuity on the coaching position and thus long-term development capability	Medium	Descending	Transfermarkt (2022)
	PCC ₆	Head coach quality	Head coach's average points per game achieved in his career	Indicates the quality level of the FC's coach	Low	Descending	Transfermarkt (2022)
	PCC ₇	Coaching team contract length	Average remaining length of coaching team members' contracts	Indicates the longevity and future stability on the coaching team positions	Low	Descending	Transfermarkt (2022)
Player Development (PD)	PD ₁	Homegrown players	Fraction of homegrown players in the current squad	Indicates the youth academy's permeability	Medium	Descending	Transfermarkt (2022)
	PD ₂	Appearances of homegrown players for FC	Bundesliga matches played for FC per homegrown player in the current squad	Indicates the FC's ability to integrate youth players from the academy	Low	Descending	Transfermarkt (2022)
	PD ₃	Development of former homegrown players	Average market value of top-10 homegrown players currently playing for another club	Indicates the career potential homegrown players receive through the FC's youth academy	Low	Descending	Transfermarkt (2022)
	PD ₄	Internal development of non-homegrown players	Average yearly market value growth of top-5 non-homegrown players since acquisition	Indicates the FC-internal development quality for non-homegrown players	Medium	Descending	Transfermarkt (2022)
	PD ₅	Youth academy performance (micro-cycle)	Average league position of youth teams (U23, U19, U17) in the last five seasons	Indicates the performance of the FC's youth teams in the current season	Low	Ascending	DFB (2022)
	PD ₆	Youth academy performance (macro-cycle)	Number of titles won in youth leagues (U23, U19, U17) in the last five seasons	Indicates the performance of the FC's youth teams in the last five seasons	Low	Descending	DFB (2022)
	PD ₇	National youth team members	Fraction of international players in youth team squads (U23, U19, U17)	Indicates the individual quality of FC's youth team players and thus the potential provision of high-quality player material in the future	Low	Descending	Transfermarkt (2022)

Table 2: Measured KPIs – Financial Performance
(own illustration)

Measured KPIs – Financial Performance (FP) – 1/2							
Sub-dimension	ID	KPI	Definition	Reasoning for Inclusion	Priority	Order	Source
Growth / Profitability (GP)	GP ₁	Revenue	Total revenue in the previous season	Indicates the FC's success in generating income across the various income sources in the last season	High	Descending	DFL (2022a); Bundesanzeiger (2022); Statista (2022); Broad internet research (i.a. FCs' webpages)
	GP ₂	Costs for professional staff	Fraction of revenue spent on professional squad budget	Indicates the portion of total revenue the FC spends on players' and coaches' salaries	Medium	Ascending	DFL (2022a); Bundesanzeiger (2022); Statista (2022); Broad internet research (i.a. FCs' webpages)
	GP ₃	Wage efficiency	Squad market value in relation to professional squad budget	Indicates how much quality the FC attains in relation to the salaries it pays for coaches and players	Medium	Descending	DFL (2022a); Transfermarkt (2022)
	GP ₄	Jersey sponsor	Revenue generated through jersey sponsoring in the current season	Indicates the FC's success in attracting sponsors	Medium	Descending	Statista (2021)
	GP ₅	Buying price mark-up	Average of transfer fees paid in relation to transfer acquisitions' market valuations	Indicates the capability to close financially attractive transfer deals when acquiring new players	Low	Ascending	Transfermarkt (2022)
	GP ₆	Selling price mark-up	Average of transfer fees gained in relation to existing players' market valuations	Indicates the capability to close financially attractive transfer deals when selling existing players	Low	Descending	Transfermarkt (2022)
	GP ₇	VIP Stadium boxes	VIP boxes per stadium capacity	Indicates the ability to generate significant matchday revenues through premium hospitality	Low	Descending	Transfermarkt (2022)
Branding (B)	B ₁	Brand attitude	Brand attitude according to a survey conducted by TU Braunschweig	Indicates the attitudes football fans have towards the FC	Low	Descending	Technische Universität Braunschweig (2019)
	B ₂	Brand awareness	Aided brand awareness according to a survey conducted by TU Braunschweig	Indicates the football fans' familiarity with the FC	Low	Descending	Technische Universität Braunschweig (2019)
	B ₃	Brand development	Year-on-year growth of the brand index according to a survey conducted by TU Braunschweig	Indicates the year-on-year development of the FC's brand dimensions attitude and awareness	Low	Descending	Technische Universität Braunschweig (2018, 2019)
	B ₄	Brand strength	Value of brand strength according to a survey conducted by HORIZONT	Indicates the strength of the FC's brand and thereby the attractiveness for sponsors, fans, and media	Low	Descending	Horizont (2021)

Measured KPIs – Financial Performance (FP) – 2/2							
Sub-dimension	ID	KPI	Definition	Reasoning for Inclusion	Priority	Order	Source
Internationalization (I)	I ₁	International sponsors	Fraction of international sponsors in the sponsoring pool (1 st to 3 rd sponsoring level)	Indicates the FC's ability to attract international sponsors	Medium	Descending	FCs' webpages (2022); FC sponsors' webpages (2022)
	I ₂	Physical presence	Physical presence in different parts of the world	Indicates the FC's efforts to attract fans abroad and maintain international relationships	Medium	Descending	Ligainsider (2022)
	I ₃	International webpage visits	Fraction of international webpage visits in the last month	Indicates the FC's success in reaching out to international fans via the official webpage	Low	Descending	SimilarWeb (2022)
	I ₄	Webpage languages	Number of languages on the official webpage	Indicates the FC's efforts to communicate with fans from different parts of the world	Low	Descending	FCs' webpages (2022)
	I ₅	International players	Fraction of international players in the professional squad	Indicates the internationality within the FC's professional squad	Low	Descending	Transfermarkt (2022)

Table 3: Measured KPIs – Fan Welfare Maximization
(own illustration)

Measured KPIs – Fan Welfare Maximization (FWM) – 1/2							
Sub-di- mension	ID	KPI	Definition	Reasoning for Inclusion	Priority	Order	Source
Membership / Attendance (MA)	MA ₁	Fan base	Number of fans in Germany	Indicates the FC's national popularity in terms of general preferences	High	Descending	Statista (2022)
	MA ₂	Member base	Number of members	Indicates the FC's national popularity in terms of its closest supporters	High	Descending	Statista (2022)
	MA ₃	Member conversion	Number of FC's members in relation to its overall fans	Indicates the fraction of the FC's overall fan base that feels extraordinarily strong about the FC	Medium	Descending	Statista (2022)
	MA ₄	Member base growth	Year-on-year growth in members	Indicates the FC's success to increase its member base	Low	Descending	Statista (2022)
	MA ₅	Stadium utilization	Average match attendance per stadium capacity	Indicates fans' levels of support and loyalty towards the FC	Low	Descending	Transfermarkt (2022)
	MA ₆	Minimum match attendance	Lowest match attendance in relation to stadium capacity	Indicates fans' willingness to support the FC also in less interesting matches or at less convenient kick-off times	Low	Descending	Transfermarkt (2022)
	MA ₇	Stadium standing capacity	Fraction of standing places in the stadium	Indicates stadium atmosphere and the FC's consideration of fan organizations' wishes (i.e. more standing places)	Low	Descending	Transfermarkt (2022)
	MA ₈	TV spectators	Average number of spectators per match	Indicates TV spectators' interest in matches of the FC	High	Descending	Meedia (2021), own assumptions
	MA ₉	Membership fee	Costs to become an FC member	Indicates the FC's willingness to enable fans to become members	Low	Ascending	FCs' webpages (2022)
	MA ₁₀	Season ticket price	Costs of average season ticket	Indicates the FC's willingness to enable fans to acquire season tickets	Low	Ascending	Ran (2021); FCs' webpages (2022)
	MA ₁₁	Day ticket price	Costs of average day ticket	Indicates the FC's willingness to enable fans to attend single matches	Low	Ascending	FCs' webpages (2022)
	MA ₁₂	Jersey price	Costs of a jersey	Indicates the FC's willingness to enable fans to purchase the jersey	Low	Ascending	FCs' webpages (2022)

Measured KPIs – Fan Welfare Maximization (FWM) – 2/2							
Sub-dimension	ID	KPI	Definition	Reasoning for Inclusion	Priority	Order	Source
Communication (C)	C ₁	Webpage visits	Average monthly webpage visits in the last six months	Indicates the overall number of visits the FC can generate on its webpage	Medium	Descending	Similarweb (2022)
	C ₂	Webpage conversion	Webpage visits in relation to overall fans	Indicates the utilization of the FC's internet presence by its fan base	Low	Descending	Similarweb (2022); Statista (2022)
	C ₃	Webpage growth	Monthly growth in webpage visits over the last six months	Indicates the FC's internet presence development in terms of webpage visits	Low	Descending	Similarweb (2022)
	C ₄	Webpage visit duration	Average visit duration in the last month	Indicates the level of engagement the FC's webpage visitors have on the FC's internet presence	Low	Descending	Similarweb (2022)
	C ₅	Facebook fan base	Number of fans on the official Facebook account	Indicates the overall number of followers the FC can attract on its Facebook account	Medium	Descending	Facebook (2022)
	C ₆	Facebook conversion	Facebook fans in relation to overall fans	Indicates the utilization of the FC's Facebook presence by its fan base	Low	Descending	Facebook (2022); Statista (2022)
	C ₇	Facebook fan base growth	Monthly growth in Facebook fans over the last six months	Indicates the FC's Facebook presence development in terms of fans	Low	Descending	Facebook (2021)
	C ₈	Facebook engagement	Average of daily likes, comments, and shares per Facebook fans	Indicates the level of engagement the FC's Facebook fans have on the FC's account	Low	Descending	Fanpage Karma (2022)
Social Responsibility (SR)	SR ₁	Sustainability performance	Sustainability ranking according to studies conducted by Sports Positive, FC Fairplay e.V., reports by DFL and its clubs, and assessments by HHL and Sports Governance e.V.	Indicates the sustainability performance of the FC with regards to ecological, economical, social factors, and governance	High	Descending	Sports Positive (2021) FC Playfair (2022) Juschus et al. (2022) DFL (2022c) Zuelch, Cruz & Kirsch (2022) Zuelch, Kirsch (2022)
	SR ₂	Fines	Total fines in 2021/22 campaign	Indicates the peacefulness of the FC's fans and the efforts the FC undertakes to prevent misconduct	Low	Descending	Fußballmafia (2022)

Table 4: Measured KPIs – Leadership & Governance
(own illustration)

Measured KPIs – Leadership & Governance (LG)							
Sub-dimension	ID	KPI	Definition	Reasoning for Inclusion	Priority	Order	Source
Board Quality (BQ)	BQ ₁	Management performance	Management score according to a survey conducted by HORIZONT (+ bonus for management education)	Indicates the current and future performance of the FC's management	Medium	Descending	Statista (2021); FCs' webpages (2022)
	BQ ₂	Independent board members	Fraction of independent members in the supervisory board	Indicates the rationality and thereby decision-making quality of the FC's supervisory board	Low	Descending	Broad internet research (i.e. FCs' webpages)
	BQ ₃	Number of board members	Total number of supervisory and executive board members	Indicates resource access and knowledge provision of the FC's boards	Low	Descending	Broad internet research (i.e. FCs' webpages)
Governance (G)	G ₁	Corporate governance quality	CG ranking according to a study conducted by Juschus, Leister, Prigge, and Dallas	Indicates the FC's overall CG quality based on a variety of indicators	Medium	Descending	Juschus et al. (2022)
	G ₂	Legal form	Allocated rank according to the legal form	Indicates the FC's CG quality based on its legal form	Low	Descending	Kicker (2022)
	G ₃	Institutional shareholders	Fraction of shares held by non-controlling institutional shareholders (here: extended to companies in general)	Indicates the FC's monitoring capabilities due to institutional governance	Low	Descending	Kicker (2022)
Transparency (T)	T	Public disclosure	Access to annual report, organigram, executive and supervisory board members (incl. CVs), and statutes	Indicates how transparently the FC operates and thereby lets the public comprehend its general setup	Medium	Descending	Bundesanzeiger (2022); FCs' webpages (2022)

3.5 The FoMa-Scoring Model

3.5.1 Overview

To finally allocate scores to each KPI, several scoring models were considered and evaluated with regards to their applicability to the present study. The options ranged from a relatively simple ranking (scores are compared among all FCs) to a more sophisticated peer group approach (deviation from peer group average measured). Even within these basic options, several alternatives were possible. For example, the ranking approach could have been implemented with a given score per rank or by allocating points relative to the respective KPI's benchmark. Ultimately, the fact that this study is a highly explorative one with few successfully proven underlying procedures was pivotal in making the decision. It was the maxim that future discussions about this study were supposed to rather revolve around dimensions, sub-dimensions, and measured KPIs as opposed to the chosen evaluation method. Therefore, the simplest and most comprehensible ranking approach was chosen: the first rank received the maximum of 17 points, with each following rank score being reduced by one point, such that rank 18 finally received a score of zero point. These scores were then multiplied with the respective KPIs' importance factors (x1 for low priority; x3 for medium priority; x5 for high priority). An illustrative example is given in Table 5, which is described in detail in the following.

The data for each KPI was gathered in a dedicated Microsoft Excel sheet, such as the one in Table 5. It depicts the sheet for the KPI *Bundesliga performance (micro-cycle)* (TP₁), which is part of the *Team performance* sub-dimension in the *Sporting Success* dimension. The number of points obtained in the Bundesliga season 2021/22 is transformed into a ranking (Rank). As this is a KPI with descending order, FC Bayern München is on top of the ranking with the highest value of 77 and receives the maximum score of 17 points. Borussia Dortmund is the following FC in the ranking. All further scores are derived in the same manner. The last step of the KPI scoring process is to derive the weighted score by multiplying the score with the importance factor, in this case five (high priority). The weighted score is then transmitted to the overall *Sporting Success* evaluation. This procedure was conducted for every single KPI, displayed in Table 1 to Table 4 on the previous pages.

Table 5: Illustrative Example of a Measured KPI
(own illustration)

Bundesliga performance (micro-cycle)					
Importance factor: 5 High priority					
FCs	Importance factor multiplied by Score	Score according to rank	Rank (in descending order) according to TP ₁	See right	Points (P) accrued in the current Bundesliga season
Football Club	Weighted score	Score	Rank	TP ₁	P2021/22
FC Bayern München	85,0	17	1	77	77
Borussia Dortmund	80,0	16	2	69	69
Bayer 04 Leverkusen	75,0	15	3	64	64
RB Leipzig	70,0	14	4	58	58
Union Berlin	65,0	13	5	57	57
SC Freiburg	60,0	12	6	55	55
1. FC Köln	55,0	11	7	52	52
TSG 1899 Hoffenheim	50,0	10	8	46	46
1. FSV Mainz 05	50,0	10	8	46	46
Borussia Mönchengladbach	40,0	8	10	45	45
Eintracht Frankfurt	35,0	7	11	42	42
VfL Wolfsburg	35,0	7	11	42	42
VfL Bochum	35,0	7	11	42	42
FC Augsburg	20,0	4	14	38	38
Hertha BSC	15,0	3	15	33	33
VfB Stuttgart	15,0	3	15	33	33
Arminia Bielefeld	5,0	1	17	28	28
SpVgg Greuther Fürth	0,0	0	18	18	18

In order to derive the final FoMa Q-Score, the dimensional scores for *Sporting Success*, *Financial Performance*, *Fan Welfare Maximization*, and *Leadership & Governance* had to be brought together in a way that implies their different weights. Again, under the maxim of not overcomplicating the evaluation process, a comprehensible model was chosen. The final FoMa Q-Score for each FC was determined by the following formula, incorporating the relation of achieved points and total reachable points per dimension as well as the dimensions' weights:

Formula	$FoMa\ Q - Score_{FC} = \sum \left(\frac{Dimension\ score_{i,FC}}{Dimension\ score_{i,max}} \right) \times Dimension\ weight_i$
Notation	FC Value for respective FC i SS, FP, FWM, LG

Due to the incorporation of the dimension weights, the FoMa Q-Score itself should not be read as percentage of total points available. It merely can be interpreted as percentage of weighted points (sum of multiplying all dimensional weights with their total reachable points) achieved. However, this would cause confusion because, by contrast, the sub-dimensions, which do not contain any weights, can indeed be read in the above-mentioned way. That is

the reason why the FoMa Q-Score will be given in absolute and the (sub-)dimension scores in relative terms. This also implies that for the sub-dimensions no weights have been allocated, but the quantity of KPIs and their importance factors determine the relevance of each sub-dimension.

The calculation of the final FoMa Q-Score is demonstrated with the specific example of RB Leipzig's score in Figure 6. Adding up all KPI scores of the *Sporting Success* dimension, RB Leipzig reaches 457 points. In total, 765 points are reachable in this dimension, which makes RB Leipzig's score a fraction of 60% (=457/765). This fraction is then multiplied with the dimension's weight within the overall FMEF, namely 40%. Thus, in the *Sporting Success* dimension, RB Leipzig receives a final score of 0.239. The same procedure is subsequently executed for the following three dimensions. Ultimately, the sum of the four weighted dimension scores yields a FoMa Q-Score of 0.609 for RB Leipzig, which can now be conveniently compared with the other FCs' scores.

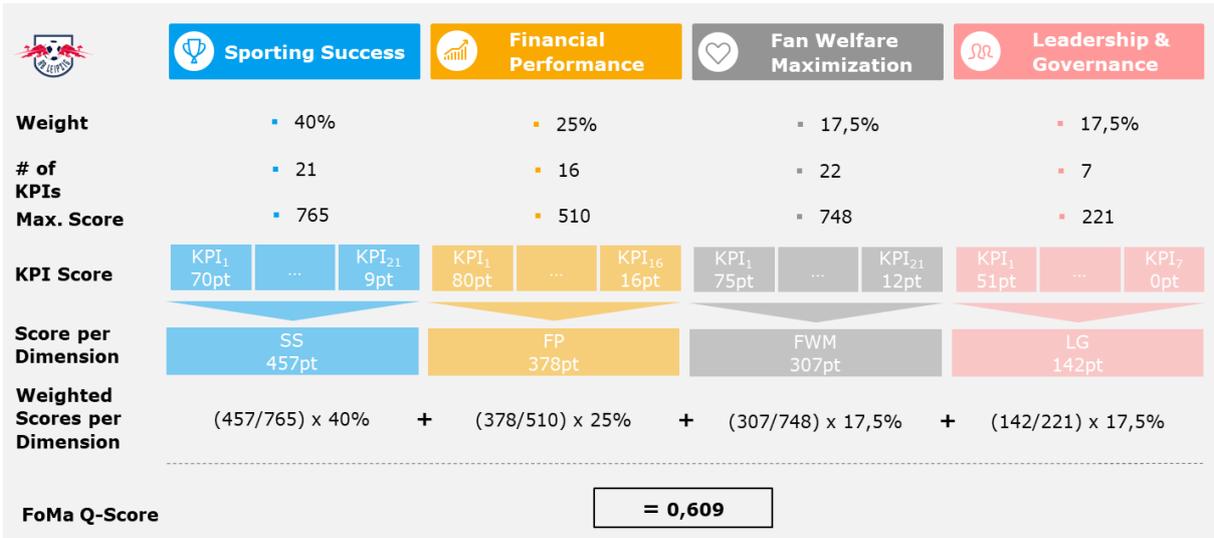


Figure 6: Illustrative Example of a FoMa Q-Score Calculation (Example: RB Leipzig)
(own illustration)

3.5.2 Composition of the Bundesliga Members in the 2021/22 Season

The main part of this study has considered the Bundesliga members of the 2021/22 season. The Bundesliga's importance in the European football landscape has already been discussed at the beginning of this study. Furthermore, it has to be mentioned with regard to the final interpretation that the Bundesliga clubs strongly vary along several characteristics. Table 6

gives an overview of the variety of legal forms, years spent in the league since last promotion, revenues of the previous season, and types of FCs according to KAWOHL ET AL. (2016, pp. 18–19). In total, the legal form of GmbH & Co. KGaA (seven FCs respectively) is still the most common one in the Bundesliga, followed by the GmbH (five FCs respectively). Compared to the previous edition, one GmbH & Co. KGaA, namely VfL Bochum, replaced one e.V., Schalke 04.

Table 6: Overview of Bundesliga Clubs 2020/21
(own illustration based on FCS' WEBPAGES (2022); TRANSFERMARKT (2022); KAWOHL ET AL. (2016))

Football Club (FC)	Legal Form	League Membership [in years]	Revenue 2020/21 [in €m]	Type of FC
1. FC Köln	GmbH & Co. KGaA	3	140.6	National Traditional Club
Arminia Bielefeld	GmbH & Co. KGaA	2	48.7	Training Club
1. FSV Mainz 05	e.V.	13	96.9	Training Club
Bayer 04 Leverkusen	GmbH	43	253.1	International Player
Borussia Dortmund	GmbH & Co. KGaA	46	323.5	International Player
Borussia Mönchengladbach	GmbH	14	161.1	National Traditional Club
Eintracht Frankfurt	AG	10	147.6	National Traditional Club
FC Augsburg	GmbH & Co. KGaA	11	99.5	Training Club
FC Bayern München	AG	57	635.5	International Player
VfL Bochum	GmbH & Co. KGaA	1	27.1	National Traditional Club
Hertha BSC	GmbH & Co. KGaA	9	114.5	National Traditional Club
RB Leipzig	GmbH	6	371.6	Project Club
SC Freiburg	e.V.	6	110.1	Training Club
SpVgg Greuther Fürth	GmbH & Co. KGaA	1	23.5	Training Club
TSG 1899 Hoffenheim	GmbH	14	128.1	Project Club
Union Berlin	e.V.	3	71.3	Training Club
VfB Stuttgart	AG	2	97.4	National Traditional Club
VfL Wolfsburg	GmbH	25	198.6	Project Club

The league membership is widely distributed, with the FC Bayern München participating in its 57th Bundesliga Championship in a row, and RB Leipzig, which joined the Bundesliga for the first time in the 2016/17 season, in just its sixth season. In terms of revenue, FC Bayern München was once again top of the class in the 2020/21 season, accumulating €636 million and thereby exceeding the smallest club by revenue, Greuther Fürth, by a factor of 27. Lastly, FCs' characteristics diverge in terms of their objectives and backgrounds. All of the mentioned differences should be kept in mind when interpreting the final results in the following chapter. This allows for correctly putting the outcomes in perspective and reduces the risk of misinterpretation.

3.5.3 COVID-19 Impact on FoMa-Scoring Model

The COVID-19 pandemic again heavily impacted Bundesliga's matchday operations during the 2021/22 campaign. After the DFL successfully implemented a hygiene concept in summer 2020, the campaign's games could be successfully operated between August 2021 and May 2022. However, a vast majority of games was still conducted as ghost games, with some notable exceptions at the beginning and at the end of the season. In short, COVID-19 and its fallout still had significant impact on the league. Aside from the impact on the Bundesliga matchday operations themselves, there was also still a significant impact on institutions closely associated with the Bundesliga, many of which are providing input data for the FoMa Q-Score data collection. As a consequence, the authors agreed to (i) adjust the weight of individual COVID-19-impacted KPIs and/or (ii) keep the data for KPIs from the previous FoMa Q-Score edition.

In detail, the weights of the KPIs in the *Financial Performance* (FP) sub-dimension *Branding* (B) were adjusted from "medium" to "low" for the KPI B_1 *Brand attitude* and B_2 *Brand awareness*. Those two KPIs and the KPI B_3 *Brand index development* were not updated and are still based on TU BRAUNSCHWEIG (2019). In addition, the weight for the KPIs MA_5 *Stadium utilization* and MA_6 *Minimum match attendance* was adjusted from "high/medium" to "low". In contrast, the weight of the KPI MA_8 *TV spectators* was adjusted from "low" to "high" to acknowledge the fact that fans follow their teams from home rather than going into the stadium. However, as no data update per club was available yet as of July 2022, the underlying dataset for MA_8 is still based on the 2020/21 season. All weight changes in KPIs are temporary to accommodate the specific COVID-19 situation and will be readjusted in the next FoMa Q-Score editions once the fallout of COVID-19 has settled.

4 Results of and Implications Based on the FoMa-Scoring Model

4.1 Results of the FoMa-Scoring Model: the Bundesliga's FoMa Q-Scores

The final results, the FoMa Q-Scores, were derived according to the procedure described in Chapter 3.5. It is now possible to rank the FCs according to their FoMa Q-Scores and to visualize the FCs' performance in the (sub-)dimensions. Table 7 and Table 8 contain the

relevant information¹⁰. For the purposes of enhanced readability and simplified interpretation, the FCs are grouped into four classes and the levels of their scores are indicated by different coloring.

As described above, the FoMa Q-Score is independent of any scale units and can only be compared among the FCs. Therefore, the FoMa Q-Score is provided in absolute terms. The values of the (sub-)dimensions, on the contrary, indicate how many points a certain FC was able to achieve in relation to the total points available. Consequently, it is more intuitive to report these figures in relative terms. To enhance the readability of the table, all values are visually represented by colors. Each column's highest value is indicated by deep green, whereas its lowest value is filled with deep red. The closer the values in between approximate the highest value (lowest value), the more the filling turns into green (red). A yellow filling stands for a value which is in the middle of the highest and lowest values. Thus, it is very easy to discover interesting outliers and patterns which are worth discussing. Additionally, the FCs are grouped into 4 categories, which match the classical outcome of a Bundesliga season. Generally speaking, FCs can either reach the UEFA Champions League, the UEFA Europa League or the UEFA Europa Conference League, a place in the midfield or are relegated to the 2nd Bundesliga. Consequently, the 4 categories are *Champions League*, *Europa League*, *Midfield* and *Relegation*. The group allocation for the management quality does not match the actual distribution, but is rather oriented on larger gaps between FCs' FoMa Q-Scores, which also become evident by the columns' color distribution¹¹.

¹⁰ Due to space considerations the results are shown up to sub-dimension level only. The results for each KPI are available and can be requested at the corresponding author's address.

¹¹ The categories do not directly match the qualification criteria for international competition and relegation in the German Bundesliga. Rather, the categories are used to illustratively cluster the Bundesliga clubs' management quality status quo and the potential of the club to regularly reach these international club competitions or play against relegation.

Table 7: FoMa Q-Scores for the Bundesliga (2021/22)¹²

FoMa Q-Score 2022			Sporting Success (SS)				Financial Performance (FP)				Fan Welfare Maximization (FWM)				Leadership & Governance (LG)			
Rank	Football Club	FoMa-Score	Total 765 pts	TP 357 pts	PCC 221 pts	PD 187 pts	Total 510 pts	GP 289 pts	B 68 pts	I 153 pts	Total 748 pts	MA 442 pts	C 204 pts	SR 102 pts	Total 221 pts	BQ 85 pts	G 85 pts	T 51 pts
1	 Borussia Dortmund	0,770	72%	73%	64%	78%	75%	68%	96%	78%	74%	76%	71%	74%	95%	92%	95%	100%
2	 FC Bayern München	0,741	73%	79%	70%	63%	71%	70%	68%	74%	78%	76%	86%	68%	78%	73%	85%	76%
3	 RB Leipzig	0,609	60%	74%	68%	22%	74%	85%	57%	61%	41%	40%	55%	17%	64%	85%	82%	0%
4	 Eintracht Frankfurt	0,600	48%	53%	52%	34%	65%	57%	69%	78%	66%	66%	83%	27%	74%	53%	84%	94%
5	 Borussia Mönchengladbach	0,558	51%	46%	63%	44%	58%	63%	76%	41%	67%	71%	72%	40%	53%	61%	32%	76%
6	 SC Freiburg	0,548	64%	59%	66%	69%	49%	54%	53%	39%	46%	47%	39%	56%	51%	78%	27%	47%
7	 Bayer 04 Leverkusen	0,542	60%	63%	79%	30%	63%	69%	40%	63%	44%	48%	54%	8%	39%	59%	28%	24%
8	 1. FC Köln	0,522	52%	57%	32%	66%	48%	54%	59%	31%	65%	67%	52%	78%	47%	20%	56%	76%
9	 VfL Wolfsburg	0,502	44%	34%	48%	59%	61%	64%	31%	69%	50%	39%	49%	100%	49%	78%	21%	47%
10	 VfB Stuttgart	0,499	44%	17%	60%	77%	45%	38%	50%	55%	57%	58%	60%	43%	64%	21%	89%	94%
11	 TSG 1899 Hoffenheim	0,484	56%	45%	62%	70%	48%	51%	38%	46%	40%	30%	42%	80%	39%	29%	69%	6%
12	 1. FSV Mainz 05	0,458	50%	48%	43%	61%	43%	42%	46%	43%	41%	35%	30%	86%	46%	64%	41%	24%
13	 Union Berlin	0,461	46%	62%	40%	20%	50%	36%	57%	73%	45%	54%	43%	11%	42%	78%	16%	24%
14	 Hertha BSC	0,428	30%	26%	19%	52%	45%	36%	28%	72%	53%	54%	47%	65%	57%	42%	59%	76%
15	 VfL Bochum	0,407	48%	50%	40%	55%	25%	17%	59%	24%	36%	43%	21%	36%	51%	13%	64%	94%
16	 Arminia Bielefeld	0,388	33%	29%	43%	29%	31%	20%	57%	41%	36%	36%	40%	28%	65%	56%	67%	76%
17	 FC Augsburg	0,374	28%	30%	31%	21%	46%	50%	24%	48%	40%	38%	35%	54%	45%	42%	46%	47%
18	 SpVgg Greuther Fürth	0,280	27%	16%	45%	26%	19%	30%	3%	4%	21%	19%	21%	31%	51%	56%	48%	47%

Legend: Highest value  Lowest value

¹² Abbreviations from the table: TP = Team Performance; PCC = Player / Coach Characteristics; PD = Player Development; GP = Growth / Profitability; B = Branding; I = Internationalization; MA = Membership / Attendance; C = Communication; SR = Social Responsibility; BQ = Board Quality; G = Governance; T = Transparency

Table 8: FoMa Q-Scores for the Bundesliga (2020/21)¹³

FoMa Q-Score 2021			Sporting Success (SS)				Financial Performance (FP)				Fan Welfare Maximization (FWM)				Leadership & Governance (LG)			
Rank	Football Club	FoMa-Score	Total 765 pts	TP 357 pts	PCC 221 pts	PD 187 pts	Total 510 pts	GP 289 pts	B 68 pts	I 153 pts	Total 748 pts	MA 442 pts	C 204 pts	SR 102 pts	Total 221 pts	BQ 85 pts	G 85 pts	T 51 pts
1	 Borussia Dortmund	0,766	73%	78%	64%	76%	75%	72%	96%	74%	67%	71%	71%	39%	95%	92%	95%	100%
2	 FC Bayern München	0,749	68%	79%	59%	58%	77%	77%	68%	83%	79%	75%	90%	71%	82%	87%	85%	71%
3	 Eintracht Frankfurt	0,685	66%	70%	74%	48%	71%	72%	66%	71%	61%	63%	71%	36%	78%	59%	84%	100%
4	 RB Leipzig	0,590	61%	64%	83%	28%	67%	79%	53%	52%	40%	42%	42%	26%	62%	80%	82%	0%
5	 Borussia Mönchengladbach	0,574	57%	52%	62%	59%	56%	62%	76%	36%	70%	67%	66%	90%	48%	62%	35%	47%
6	 VfL Wolfsburg	0,545	59%	63%	57%	52%	52%	51%	26%	65%	49%	33%	57%	100%	55%	68%	32%	71%
7	 VfB Stuttgart	0,543	54%	46%	60%	61%	49%	51%	47%	47%	54%	57%	50%	46%	62%	24%	89%	82%
8	 Bayer 04 Leverkusen	0,512	56%	54%	70%	45%	50%	56%	31%	48%	51%	48%	51%	61%	41%	68%	28%	18%
9	 FC Schalke 04	0,472	30%	25%	28%	45%	51%	43%	44%	69%	72%	80%	66%	51%	55%	21%	62%	100%
10	 1. FC Köln	0,454	41%	35%	37%	55%	37%	39%	59%	25%	66%	61%	66%	85%	47%	27%	53%	71%
11	 SV Werder Bremen	0,453	38%	26%	46%	52%	42%	33%	62%	50%	64%	55%	68%	95%	48%	20%	56%	82%
12	 SC Freiburg	0,447	50%	45%	47%	65%	34%	27%	53%	39%	41%	38%	30%	75%	52%	79%	27%	47%
13	 TSG 1899 Hoffenheim	0,436	45%	40%	57%	41%	57%	71%	38%	38%	27%	28%	23%	31%	38%	36%	59%	6%
14	 1. FSV Mainz 05	0,435	43%	41%	35%	55%	46%	45%	41%	50%	36%	25%	37%	80%	49%	55%	45%	47%
15	 Hertha BSC	0,410	34%	23%	39%	48%	42%	39%	26%	54%	43%	43%	31%	71%	54%	40%	59%	71%
16	 Union Berlin	0,365	37%	43%	38%	25%	41%	26%	53%	65%	34%	40%	34%	11%	31%	49%	20%	18%
17	 Arminia Bielefeld	0,364	35%	37%	41%	26%	25%	18%	51%	27%	33%	37%	31%	17%	58%	53%	71%	47%
18	 FC Augsburg	0,349	31%	32%	20%	40%	41%	43%	19%	46%	30%	33%	17%	41%	42%	48%	32%	47%

Legend: Highest value  Lowest value

¹³ Abbreviations from the table: TP = Team Performance; PCC = Player / Coach Characteristics; PD = Player Development; GP = Growth / Profitability; B = Branding; I = Internationalization; MA = Membership / Attendance; C = Communication; SR = Social Responsibility; BQ = Board Quality; G = Governance; T = Transparency

In the 2021/22 FoMa Q-Score edition, major rank improvements come from SC Freiburg (+6 places), and Union Berlin (+3 places). Both clubs could significantly increase their FoMa Q-Score compared to the previous edition (+0.101pt. and +0.096pt. respectively) driven by their exceptional *Sporting Success* performance in last year's Bundesliga campaign, which also indirectly benefitted other KPIs as well. In addition, three other FCs recorded rank improvements by two places, namely: (i) 1. FC Köln (+2 places), building on an exceptional 2021/22 campaign as well pushing *Sporting Success* and *Financial Performance*, (ii) Mainz 05 (+2 places), and (iii) TSG Hoffenheim (+2 places), with the latter clubs improving slightly across the KPIs, but also benefitting from the absence of Schalke 04 and Werder Bremen (due to relegation in season 2020/21) in this year's ranking. National cup-winner RB Leipzig confirms its upward trend in recent FoMa Q-Score editions with rank 3 and is further closing in on the top-duo Borussia Dortmund and Bayern München. Excellent *Financial Performance* paired with on-the-pitch *Sporting Success* are the reasons to leave Eintracht Frankfurt behind in fourth place. The Europa League win cannot hide underachievement in national league and cup competition by the Hess in the season 2021/22 that is diluting Eintracht's score significantly (-0.085pt.). Aside from Frankfurt, VfL Wolfsburg and VfB Stuttgart are the two clubs losing ground in this year's ranking, as both clubs experience significant ranking regressions, respectively ranked at place 9 (versus 6), and 10 (versus 7). The deterioration mainly results from the FCs' decline in the *Sporting Success* sub-dimension *Team Performance* (TP) for both clubs. Notably, newly promoted VfL Bochum was able to secure 15th place in its first season back in the Bundesliga due to its solid *Sporting Success* in their first Bundesliga season, a strong brand, a loyal fanbase, robust governance quality and excellence in transparency.

Regarding the season 2021/22, the overall FoMa Q-Score distribution is much more dispersed than in the previous season. Indeed, .490 points separates Borussia Dortmund (.770), ranked at the top, from SpVgg Greuther Fürth, ranked last (.280), which is .073 more dispersion than in the last edition. Moreover, 50% of the German elite FCs achieve a score equal or higher than .501, which is significantly above the median score achieved in the previous edition 2020/21 (.463) and 2019/20 (.492), confirming that the top-clubs halted a recent downward trend in Management Quality in the last two seasons, and seemingly have recovered better from the Covid-19 crises than the lower-tier clubs. Noticeably, and against the trend of last year's edition, the gap between the top-two duo and the rest of the league has widened

again. All in all, the Management Quality within the Bundesliga shows different developments, which are detailed in the following (see Figure 7).

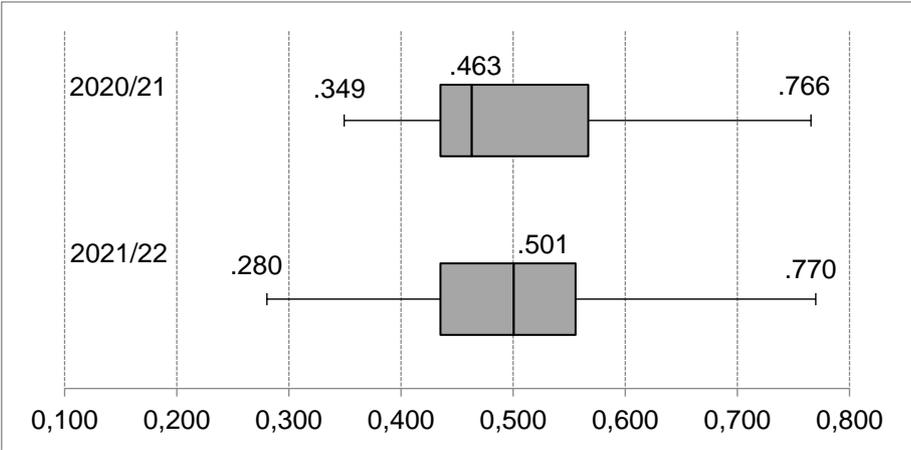


Figure 7: Overall score dispersion among Bundesliga football clubs in 2020/21 and 2021/22

Champions League players remain Borussia Dortmund and FC Bayern München, as in the season 2020/21, but both FCs’ scores have been developing in opposite directions recently. Whereas Borussia Dortmund was able to increase its score slightly for the second season in a row (+.004), driven by *Fan welfare maximization* sub-dimension *Social Responsibility* (SR), Bayern München’s score dropped (-.008) again due to non-favourable, COVID-19-driven developments in *Financial Performance* sub-dimensions *Growth/Profitability* (GP) and *Internationalization* (I). These effects should be temporary. However, Bayern München presumably needs to increase their *performance in Fan Welfare Maximization* sub-dimension *Social Responsibility* (SR) and *Leadership & Governance* sub-dimension *Transparency* (T) to regain the top-position in the FoMa Q-Score ranking. Overall, the Champions League players are once again characterized by a very strong balance between the four FoMa Q-Score dimensions with scores ranging above 71% in each of these.

In contrast to the previous edition, the Europa League category is composed by six FCs, an increase by one club. This is due to the fact that two new clubs in this category, SC Freiburg (+6 places) and 1. FC Köln (+2 places) could significantly increase their FoMa Q-score, to a level at which they clearly show aspirations to be a prospect for international competitions for the years to come. In addition, Bayer Leverkusen was able to solidly raise its FoMa Q-Score as well

with good on-the-pitch *Team Performance* last season and very good *Player Coach Characteristics* (+ 1 place). VfL Wolfsburg (-3 places) and VfB Stuttgart (-3 places), two clubs that newly joined the Europa League cluster last season, couldn't confirm their previous ranking with an underwhelming *team performance* (TP) in national and international competition this year. The positioning of VfL Wolfsburg is especially disappointing considering the great potential they have from a *Financial Performance* point of view. To a certain extent, the same is true for the Swabian club, which shows great potential in *Fan Welfare Maximization* and in some *Financial Performance* KPIs, but is not yet able to transfer this potential into team performance in national competitions. Overall, the FCs in the Europa League category tend to broaden the gap to the Midfield group. However, the average margin of all clubs has deteriorated significantly (-0.024) driven by the reduced FoMa Q-Score of Eintracht Frankfurt. Looking specifically at the successful FCs from season 2020/21, RB Leipzig shows improvements in terms of *Financial Performance* (FP +7ppt) and *Leadership & Governance* (LG +2ppt), gradually overtaking peers and taking the lead in the Europa League category. Moreover, we notice that the successful clubs from last season - SC Freiburg, 1. FC Köln and Bayer Leverkusen - not only improved from a *Sporting Success* point of view (SS +14ppt., +11ppt., +4ppt. respectively), but were also able to transfer on-the-pitch performance to *Financial Performance* (FP +15ppt., +11ppt., +13ppt. respectively). This underlines the pressure these clubs will put on the established clubs of this category.

Next, the Midfield group consists of only five FCs this year, starting with VfL Wolfsburg ranked 9th to Union Berlin, ranked 13th. This reduction of midfield clubs outlines the fact that the "classical midfield" in the league has dwindled over recent years in German professional football. Today, a club is able to target international competition whenever exceptional management and on the pitch team performance come together. In contrast, clubs will immediately find themselves in relegation competition - independent of size, tradition and financial capacity - once sporting success and management performance deteriorates. Compared to the Europa League players, Midfield participants show average scores ranging between 8ppt to 11ppt lower in almost all scoring sub-dimensions. In this year's FoMa Q-Score, the Midfield clubs score an average of .481 in this year's edition (+ 0.022 vs. 2020/21), driven by the solid *Sporting Success* performance of Midfield FCs 1899 Hoffenheim, Mainz 05 and Union Berlin in the recent Bundesliga season. All other dimensions have developed comparably stable against

Europa League peers. Union Berlin has to be pointed out in this group. The Berlin club has performed very well in the *Sporting Success* dimension for a third season in a row, playing internationally for the second time in the upcoming season. With this exceptional *team performance* (TP), the club has distanced itself from the relegation cluster. If Union Berlin is now able to transfer its very good team performance into the other FoMa Q-Score dimensions, the club will easily overtake its Midfield club peers in the FoMa Q-Score ranking next year and can attack the Europa League cluster.

Last but not least, the Relegation group encompasses five FCs this year, illustrating the density of the relegation battle. The relegation cluster consists of Hertha BSC Berlin, followed by one newly promoted club, namely VfL Bochum, ranking at place 15. Arminia Bielefeld is ranked 16th, and FC Augsburg and Greuther Fürth round out the bottom of the FoMa Q-Score ranking. The group shows heterogeneous scores in many sub-dimensions. On the bright side, all clubs show solid potential in the *Leadership & Governance* dimension, illustrating the consciousness for good *board quality* (BQ), *governance* (G) and *transparency* (T) in smaller clubs as well. However, the real-life examples of Arminia Bielefeld and Greuther Fürth show that relegation is more than probable for clubs in this category once a team does not perform on the pitch and off the pitch – in terms of *financial performance* – at the same time, as was the case for both clubs in season 2021/22. Hertha BSC scores like a Midfield club in many dimensions, however bad *team performance* (TP) is hurting its overall score for a second season in a row. Accordingly, avoiding relegation will especially be a challenge for VfL Bochum and FC Augsburg in the upcoming season. Even more so as two other Midfield-potential clubs are joining the relegation race from the second division: SV Werder Bremen and Schalke 04.¹⁴

4.2 Implications Based on the FoMa-Scoring Model

By allowing discussions such as the ones in the previous chapter, the FoMa-Scoring Model can prove highly useful for stakeholders from the football environment. Within FCs, an interesting utilization could be the application of the FoMa-Scoring Model for benchmarking

¹⁴ SV Werder Bremen and Schalke 04 are scoring strongly in the *Fan Welfare Maximization* sub-dimension due to their fan base. At the same time, both clubs show solid scores in the sub-dimension *Financial Performance*. Bremen and Schalke are football brands with international appeal. Although there is still massive potential for improvement and professionalization, it seems that both clubs have learned their lessons from last year's relegation. If one integrates the two clubs into this year's ranking, only one conclusion can be drawn: even if Bremen and Schalke will have a hard time catching up in the league, clubs like Hertha BSC and VfL Bochum as well as FC Augsburg will have to take up the sporting fight to avoid relegation. Further information on the described integration of the two promoted teams can be obtained on request (henning.zuelch@hhl.de).

purposes. Football managers can quite conveniently compare their FC's performance in specific (sub-)dimensions with that of their main competitors. When transformed into concrete actions, the learnings can provide substantial advantages with regards to an FC's competitiveness. In addition, the FMEF's insights could be transformed into an internal controlling system, allowing managers to be evaluated with a more reliable foundation. Do's and don'ts for the implementation phase can be derived from VfB Stuttgart's attempt in 2003 to install such a management tool (further described in Chapter 2.3). For non-FC stakeholders the FoMa Q-Score opens up new opportunities to receive more detailed information about an FC: For example, it would be appropriate for sponsors to consider the FoMa Q-Score within the scope of a due diligence. It may provide insights as to the strengths and weaknesses of an FC, which then can be compared with the company's objectives and capabilities. In addition, the DFL licensing procedure should also be mentioned as a practical application opportunity. It is one of the goals of this procedure to foster managerial and financial structures (DFL, 2021b, p. 3). A refined version of the FoMa Q-Score could serve as an indicator for the existing structures of FCs and give insightful inspiration for areas which require particular attention in the near future. Thanks to the present edition, which considers the German league, the DFL may use the holistic approach proposed as a strategic management tool to identify its own strengths and weaknesses, as well as those of their nearest competitors at a European level.

As the present study constitutes the FoMa Q-Score's sixth edition, which comprehensively evaluates the relevant dimensions of managing FCs and extends them longitudinally, it still remains explorative. Therefore, several limitations should be mentioned in order to correctly interpret the results and derive potential next steps. First of all, the measured KPIs of the four dimensions have not been empirically tested with regards to their explanatory power. Some measured KPIs are likely relevant for all FCs, whereas others only concern a certain group of FCs. This one size fits all approach presumably favors larger FCs to a certain degree, as some KPIs contain absolute, instead of relative, values. Secondly, the scoring model does not follow a scientific best-practice procedure due to the reason that the FoMa Q-Score model does not reflect the *Balance Scorecard* developed by KAPLAN & NORTON (1992) one to one. The aim was to design the evaluation as intuitively and practice-oriented as possible in order to enable deeper discussions about the content, which in this case is related to dimensions, sub-dimensions, and KPI definitions. Especially the weights of sub-dimensions (based on the quantity of

measured KPIs) and individual KPIs (low, medium, high priority) were derived subjectively. However, the overall score has been tested. According to ZÜLCH, CRUZ, & SCHREGEL (2021), the FoMa Q-Score is well-accepted in practice, and, according to expert feedback, the four dimensions of the FoMa Q-Score framework are representative to measure the management quality of professional football clubs. In practice, however, key success drivers of the individual clubs have to be considered in addition to drive the vision and strategy of a FC. Thirdly, within this year's score, as in last year's score as well, adjustments to the weights of individual KPIs had to be made to cover the extraordinary circumstances of a COVID-19 impacted seasons (further described in Chapter 3.5.3). Lastly, the access to relevant data was exclusively restricted to publicly available sources. As the setups of most FCs allow them to control the disclosure of information, it was a challenge to establish a common level playing field. However, in order to prevent the results from being distorted due to a lack of transparency, it was a necessary hurdle to overcome. The KPIs and their underlying data were selected and analyzed to the best of the authors' knowledge. Nevertheless, it seems likely that full access to the FCs' financial results, governance mechanisms, and partnering structures would have at least slightly changed the outcome.

The limitations discussed above suggest the need for more thorough examinations. Although this study is a first step towards closing the gap of management quality research in the football arena, additional investigations are needed.

5 Conclusion

As the European football industry has been going through a phase characterized by a high level of commercialization, the challenges for and requirements of an FC's management have increased considerably. So far, the topic of management quality in the football industry has received little consideration (ZÜLCH & PALME, 2017). This study builds on the FoMa Q-Score's previous edition (ZÜLCH, PALME, JOST & KIRSCH, 2021) and extends it longitudinally. Five steps were taken to derive the final result, which respectively placed Borussia Dortmund and FC Bayern München at the top of the Bundesliga.

Firstly, a broad literature review was conducted to learn as much as possible from general management theory. It was argued that since most of the Bundesliga members can nowadays be considered as medium or large enterprises, a lot of these insights can also be applied to

FCs. To structure the literature analysis, KAPLAN AND NORTON'S *Balanced Scorecard* was applied. It categorizes management tasks into four broad perspectives: *Financial*, *Customer*, *Internal-Business-Process*, and *Learning & Growth*. The relationship of these perspectives and management quality seems intuitive: the more a company excels in each of the perspectives, the better it is thought to be managed. After all, management quality is evaluated with respect to the achievement of objectives in the four perspectives. For each of them, key drivers and correlations have been identified and discussed.

Secondly, based on the traditional literature analysis, the particularities of FCs were analyzed. It is rather apparent that FCs only function like traditional companies to a certain degree. Therefore, correctly determining the dimensions driving the success of FCs was the key to a reliable framework of management quality in the Bundesliga. A thorough analysis of academic sports literature as well as recent industry reports yielded the following four relevant dimensions: *Sporting Success*, *Financial Performance*, *Fan Welfare Maximization* and *Leadership & Governance*. After having scrutinized each of the dimensions, three sub-dimensions were determined per dimension. The sub-dimensions are supposed to cover the most important areas and simultaneously overlap as little as possible.

Thirdly, the theoretical foundation from steps one and two were presented to industry experts. The aim of this study is to be of high practical relevance. For this reason, ten semi-structured interviews with industry experts have been conducted. Interview partners were high-level stakeholders from FCs (FC Bayern München, Borussia Dortmund, Eintracht Frankfurt, Hamburger SV, RB Leipzig), media (11 Freunde, FINANCE) and further external stakeholders (Lagardère Sports Germany, Puma). The framework was perceived very positively by the interview partners and their feedback subsequently incorporated in the refinement of the Football Management Evaluation Framework (FMEF).

The intermediate result after the first three steps was the FMEF depicted in Figure 5. The FMEF defines the weights of the four dimensions: *Sporting Success* = 40%, *Financial Performance* = 25%, *Fan Welfare Maximization* = 17.5%, and *Leadership & Governance* = 17.5%. In addition, the relevant sub-dimensions are mentioned.

Fourthly, for each of the sub-dimensions a set of KPIs was identified. To finally arrive at a management quality ranking of the Bundesliga members, it was necessary to fill the FMEF with measurable, objective KPIs. This working paper has taken a purely external point of view,

which made the creation of a level playing field a major challenge. Due to the inconsistencies with regards to public disclosure of information among the FCs, several sources such as annual reports had to be excluded from the analysis. Instead, publicly available data for all FCs were collected in several Microsoft Excel files. The KPIs were clearly defined and documented in order to guarantee full transparency concerning the results.

Fifthly, a scoring model was set up, allowing FCs to be compared against each other. It was the authors' goal to first enable discussions about the content of the FoMa Q-Score, which consists of the (sub-)dimensions and the measured KPIs. Clearly, the scoring model is an important part of the final ranking. However, deeper, more technically advanced investigations are going to be necessary to derive the most reliable and scientifically robust procedure. For this study, the maximum of 17 points was distributed to the first place of a KPI evaluation for Bundesliga participants. With each lower place, one point was deducted. The total points gathered for all KPIs of a certain dimension were set in relation to the total points available. This fraction was then multiplied with the weight of that particular dimension. After the same procedure, all dimensional values were derived and then summed up. **The ultimate outcome is considered the Football Management (FoMa) Q-Score of a specific FC.**

The final result of this working paper is depicted in Table 7 and Table 8. The winner of the 2021/22 FoMa Q-Score ranking is again **Borussia Dortmund (0.770), followed by FC Bayern München (0.741)**. These FCs play in the Champions League group in terms of management quality. The other FCs are categorized in Europa League, Midfield, and Relegation.

Further refining this framework through additional scientific and practical investigations could develop the FoMa Q-Score into a reliable industry benchmark in the near future. Various practical stakeholders are expected to benefit from the insights. Overall, this study strives to be the nucleus for a sophisticated management quality evaluation framework, which helps to improve management quality in the football environment.

6 Appendix

6.1 Expert Interview Partners

Name	Company	Position	Stakeholder type
Dreesen, Jan-Christian	FC Bayern München	Executive Vice Chairman	FC
Frankenbach, Oliver	Eintracht Frankfurt	Executive Board member	FC
Gantenberg, Lars	Lagardère Sports Germany	Senior Director Digital Sales	Marketer
Hedtstück, Michael	FINANCE	Chief Editor (Online, TV)	Media
Hesse, Ulrich	11 Freunde	Editor	Media
Manz, Ewald	Odgers Berndtson	Partner	HR-Consultant
Scholz, Florian	RB Leipzig	Head of Media & Communication	FC
Steden, Dr. Robin-Christian	Borussia Dortmund	Head of Investors Relations	FC
Wettstein, Frank	Hamburger SV	Executive Vice Chairman	FC
Wolter, Ulrich	RB Leipzig	Executive Board member	FC
Wolz, Dominic	Puma	Head of Sports Marketing Teamsport	Sponsor

6.2 Calculation of Measured KPIs for the German Bundesliga

6.2.1 Sporting Success

KPI calculations – Sporting Success (SS) – 1/3					
Sub-di- mension	ID	Name	Formula	Notation	
Team Performance (TP)	TP ₁	Bundesliga performance (micro-cycle)	$TP_1 = P$	P	Points accrued in the Bundesliga [2021/22]
	TP ₂	Bundesliga performance efficiency (micro-cycle)	$TP_2 = \frac{P}{B}$	P B	Points accrued in the Bundesliga [2021/22] Professional squad budget [2021/22; in €m]
	TP ₃	Bundesliga performance (meso-cycle)	$TP_3 = \sum_{i=1}^3 (w_i \times P_i)$	P _i w _i i	Points accrued in Bundesliga season i Yearly weights: with w ₁ = 1/2 and w ₂ = w ₃ = 1/4 2021/22, 2020/21, 2019/20
	TP ₄	Bundesliga performance efficiency (meso-cycle)	$TP_4 = \sum_{i=1}^3 (w_i \times \frac{P_i}{MV_i})$	P _i MV _i w _i i	Points accrued in Bundesliga season i Market value of squad at the beginning of season i [in €m] Yearly weights: with w ₁ = 1/2 and w ₂ = w ₃ = 1/4 2021/22, 2020/21, 2019/20
	TP ₅	DFB-Pokal performance (macro-cycle)	$TP_5 = \sum_{i=1}^5 (w_i \times M_i)$	M _i w _i i	Matches won in DFB-Pokal season i Yearly weights: with w ₁ = 1/2 and w ₂ = w ₃ = w ₄ = w ₅ = 1/8 2021/22, 2020/21, 2019/20, 2018/19, 2017/18
	TP ₆	International performance (macro-cycle)	$TP_6 = \sum_{i=1}^5 (\frac{1}{5} \times U_i)$	U _i i	UEFA club coefficient season i 2021/22, 2020/21, 2019/20, 2018/19, 2017/18
	TP ₇	Title performance (macro-cycle)	$TP_7 = \sum_{i=1}^5 (w_i \times T_i)$	T _i w _i i	Titles won in season i Yearly weights: with w ₁ = 1/2 and w ₂ = w ₃ = w ₄ = w ₅ = 1/8 2021/22, 2020/21, 2019/20, 2018/19, 2017/18

KPI calculations – Sporting Success (SS) – 2/3

Sub-dimension	ID	Name	Formula	Notation
Player / Coach Characteristics (PCC)	PCC ₁	Player performance	$PCC_1 = R_s$	R _s Average Who Scored rating of total squad [2021/22]
	PCC ₂	Players' mean age	$PCC_2 = A$	A Mean age of the squad [2021/22]
	PCC ₃	New players' performance contributions	$PCC_3 = \sum_{i=1}^3 \frac{1}{3} \times (R_s - R_i)$	R _s Average rating of total squad excl. top-3 new players R _i Rating of top-3 new player i i 1, 2, 3
	PCC ₄	Top players' contract lengths	$PCC_4 = \sum_{i=1}^5 \frac{1}{5} \times C_i$	C _i Remaining contract duration of top-5 player i [in days] i 1, 2, 3, 4, 5
	PCC ₅	Head coach job security	$PCC_5 = \sum_{i=1}^n \frac{1}{n} \times D_i$	D Days on the job head coach i i 1, 2, 3, ..., n
	PCC ₆	Head coach quality	$PCC_6 = \frac{P}{M}$	P Points accrued by head coach in his career M Matches as head coach
	PCC ₇	Coaching team contract length	$PCC_7 = \sum_{i=1}^n \frac{1}{n} \times C_i$	C _i Remaining duration of coaching team member i's contract [in days] i 1, 2, 3, ..., n

KPI calculations – Sporting Success (SS) – 3/3

Sub-dimension	ID	Name	Formula	Notation
Player Development (PD)	PD ₁	Homegrown players	$PD_1 = \frac{PL_H}{PL}$	PL _H Homegrown players PL Total number of players in the squad
	PD ₂	Appearances of homegrown players	$PD_2 = \frac{M_H}{PL_H}$	M _H Bundesliga matches played by homegrown players for FC PL _H Homegrown players
	PD ₃	Development of former homegrown players	$PD_3 = \sum_{i=1}^{10} \frac{1}{10} \times MV_i$	MV _i Current market value homegrown player i (active for another FC) [in €m] i 1, 2, 3, ..., 10
	PD ₄	Internal development of non-homegrown players	$PD_4 = \sum_{i=1}^5 \frac{1}{5} \left(\left(\frac{MV_i}{MV_{0i}} \right)^{\frac{1}{y}} - 1 \right)$	MV _i Current market value non-homegrown player i [in €m] MV _{0i} Initial market value non-homegrown player i [in €m] i 1, 2, 3, 4, 5 y Years as part of the FC
	PD ₅	Youth academy performance (micro-cycle)	$PD_5 = \sum_{i=1}^3 \frac{1}{3} \times LP_i$	LP _i League position of youth team i i U23, U19, U17
	PD ₆	Youth academy performance (macro-cycle)	$PD_6 = \sum_{i=1}^5 w_i \times T_i$	T _i Titles won in season i w _i Yearly weights: with w ₁ = 1/2 and w ₂ = w ₃ = w ₄ = w ₅ = 1/8 i 2021/22, 2020/21, 2019/20, 2018/19, 2017/18
	PD ₇	National youth team members	$PD_7 = \sum_{i=1}^3 \frac{1}{3} \times \frac{PL_{Ni}}{PL_i}$	PL _N Players from youth team i active for a national team PL _i Total players in youth team i i U23, U19, U17

6.2.2 Financial Performance

KPI calculations – Financial Performance (FP) – 1/2				
Sub-di- mension	ID	Name	Formula	Notation
Growth / Profitability (GP)	GP ₁	Revenue	$GP_1 = R$	R Total revenue [2020/21; in €m]
	GP ₂	Costs for professional staff	$GP_2 = \frac{B}{R}$	B Professional squad budget [2021/22; in €m] R Total revenue [2020/21; in €m]
	GP ₃	Wage efficiency	$GP_3 = \frac{MV}{B}$	MV Market value of squad [2021/22; in €m] B Professional squad budget [2021/22; in €m]
	GP ₄	Jersey sponsor	$GP_4 = R_{JS}$	R _{JS} Revenue from jersey sponsoring [2021/22; in €m]
	GP ₅	Buying price mark-up	$GP_5 = \frac{TF_B - MV}{MV}$	TF _B Transfer fee paid for new players [2021/22; in €m] MV Market value of players at point of transfer [in €m]
	GP ₆	Selling price mark-up	$GP_6 = \frac{TF_S - MV}{MV}$	TF _S Transfer fee received for selling players [2021/22; in €m] MV Market value of players at point of transfer [in €m]
	GP ₇	VIP Stadium boxes	$GP_7 = \frac{VB}{SC}$	VB VIP boxes in the stadium [2021/22] SC Stadium capacity [2021/22; in k]

KPI calculations – Financial Performance (FP) – 2/2				
Sub-di-mension	ID	Name	Formula	Notation
Branding (B)	B ₁	Brand attitude	$B_1 = BAT$	BAT Brand attitude according to TU Braunschweig [2019]
	B ₂	Brand awareness	$B_2 = BA$	BA Brand awareness according to TU Braunschweig [2019; in %]
	B ₃	Brand index development	$B_3 = \frac{BI_1 - BI_0}{BI_0}$	BI ₀ Brand index according to TU Braunschweig [2018] BI ₁ Brand index according to TU Braunschweig [2019]
	B ₄	Brand score	$B_4 = HO$	HO Brand score according to HORIZONT [2021]
Internationalization (I)	I ₁	International sponsors	$I_1 = \frac{SP_{Int}}{SP}$	SP _{Int} International sponsors in first three sponsoring levels SP Total sponsors in first three sponsoring levels
	I ₂	Physical presence	$I_2 = \sum_{i=1}^n TR_{ij} \times W_{TRij}$	TR _{ij} Travel abroad j in season i W _{TRij} Weight of travel abroad j in season i [x1; x3; x5] i 2019/20, 2020/21, 2021/22 j 1, 2, 3, ..., n
	I ₃	International webpage visitors	$I_3 = (1 - V_{GER})$	V _{GER} Fraction of German visitors on domain i [in %]
	I ₄	Webpage languages	$I_4 = L$	L Available languages (incl. German) on the official FC webpage
	I ₅	International players	$I_5 = \frac{PL_{Int}}{PL}$	PL _{Int} International players in the professional squad [2021/22] PL Total players in the professional squad [2021/22]

6.2.3 Fan Welfare Maximization

KPI calculations – Fan Welfare Maximization (FWM) – 1/2					
Sub-di- mension	ID	Name	Formula	Notation	
Membership / Attendance (MA)	MA ₁	Fan base	$MA_1 = F$	F	Total fans [in k]
	MA ₂	Member base	$MA_2 = MB$	MB	Club members [in k]
	MA ₃	Member conversion	$MA_3 = \frac{MB}{F}$	MB F	Club members [in k] Total fans [in k]
	MA ₄	Member base growth	$MA_4 = \frac{MB_1 - MB_0}{MB_0}$	MB ₀ MB ₁	Club members [in k] Club members [in k]
	MA ₅	Stadium utilization	$MA_5 = SU$	SU	Stadium utilization [2021/22; in %]
	MA ₆	Minimum match attendance	$MA_6 = \frac{MA_{Low}}{SC}$	MA _{Low} SC	Lowest match attendance [2021/22; in k] Stadium capacity [2021/22; in k]
	MA ₇	Stadium standing capacity	$MA_7 = \frac{SC_{St}}{SC}$	SC _{St} SC	Stadium standing capacity [2021/22; in k] Stadium capacity [2021/22; in k]
	MA ₈	TV spectators	$MA_8 = TV$	TV	Average number of TV spectators per match [2020/21; in m]
	MA ₉	Membership fee	$MA_9 = C_{MB}$	C _{MB}	Yearly costs for club membership [2021/22; in €]
	MA ₁₀	Season ticket price	$MA_{10} = \sum_{i=1}^3 \frac{1}{3} \times C_{STi}$	C _{STi} i	Costs for season ticket i [in €] Standing place, Seating place (cheapest), Seating place (most expensive)
	MA ₁₁	Day ticket price	$MA_{11} = \sum_{i=1}^3 \frac{1}{3} \times C_{DTi}$	C _{DTi} i	Costs for day ticket i [in €] Standing place, Seating place (cheapest), Seating place (most expensive)
	MA ₁₂	Jersey price	$MA_{12} = C_J$	C _J	Costs for jersey [in €]

KPI calculations – Fan Welfare Maximization (FWM) – 2/2					
Sub-dimension	ID	Name	Formula	Notation	
Communication (C)	C ₁	Webpage visits	$C_1 = \sum_{i=1}^n w_i * V_i$	V _i w _i i	Average visitors on domain i [in m] % of total visits on domain i [in m] .de, first foreign domain, second foreign domain
	C ₂	Webpage conversion	$C_2 = \frac{\sum_{i=1}^n w_i * V_i}{F}$	V _i F i	Average visitors on domain i [in m] Total fans .de, first foreign domain, second foreign domain
	C ₃	Webpage growth	$C_3 = \left(\frac{\sum_{i=1}^n V_{1i}}{\sum_{i=1}^n V_{0i}} \right)^{\frac{1}{3}} - 1$	V _{0i} V _{1i} i	Total visitors on domain i [month 0, in m] Total visitors on domain i [month 1, in m] .de, first foreign domain, second foreign domain
	C ₄	Webpage visit duration	$C_4 = \frac{1}{n} * \sum_{i=1}^n VD_i$	VD _i i	Visit duration on Global domain [in min] .de, first foreign domain, second foreign domain, ..., n foreign domain
	C ₅	Facebook fan base	$C_5 = FF$	FF	Facebook fans [in m]
	C ₆	Facebook conversion	$C_6 = \frac{FF}{F}$	FF F	Facebook fans [in m] Total fans [in k]
	C ₇	Facebook fan base growth	$C_7 = \left(\frac{FF_1}{FF_0} \right)^{\frac{1}{6}} - 1$	FF ₀ FF ₁	Facebook fans [month 0, in m] Facebook fans [month 1, in m]
	C ₈	Facebook engagement	$C_8 = FE$	FE	Average daily Facebook engagement [in %]
Social Re-sponsibility (SR)	SR ₁	Sustainability performance	$SR_1 = SP$	SP	Sustainability performance according to SPORT POSITIVE [2021], FC PLAY-FAIR [2022], JUSCHUS ET AL. [2022], DFL [2022c] ZUELCH, CRUZ, KIRSCH [2021] and ZUELCH, KIRSCH [2022]
	SR ₂	Fines	$SR_2 = FI$	FI	Fines by official governing bodies [2021/22; in €k]

6.2.4 Leadership & Governance

KPI calculations – Leadership & Governance (LG) – 1/2					
Sub-dimension	ID	Name	Formula	Notation	
Board Quality (BQ)	BQ ₁	Management score	$BQ_1 = MS + ME_i$	MS ME i	Management score according to HORIZONT [2021] Availability of a dedicated management education program Yes, No
	BQ ₂	Independent board members	$BQ_2 = \frac{BM_I}{BM}$	BM _I BM	Independent supervisory board members Total supervisory board members
	BQ ₃	Number of board members	$BQ_3 = BM_S + BM_E$	BM _S BM _E	Total supervisory board members Total executive board members
Governance (G)	G ₁	Corporate governance quality	$G_1 = CGR$	CGR	CG ranking according to JUSCHUS ET AL. [2022]
	G ₂	Legal form	$G_2 = LF$	LF	Legal form order
	G ₃	Institutional shareholders	$G_3 = \frac{S_I}{S}$	S _I S	Shares held by non-controlling institutional shareholders Total shares

KPI calculations – Leadership & Governance (LG) – 2/2

Sub-di-mension	ID	Name	Formula	Notation	
Transparency (T)	T	Public disclosure	$T = \sum (AR_i + O_i + EB_i + CV_{EBi} + SB_i + CV_{SBI} + ST_i)$	AR _i O _i EB _i CV ^{EBi} SB _i CV ^{SBI} ST _i i	Public disclosure of the annual report Public disclosure of a high-level organigram Public disclosure of the executive board members Public disclosure of the executive board members' CVs Public disclosure of the supervisory board members Public disclosure of the supervisory board members' CVs Public disclosure of the Statutes Disclosed, Not disclosed

6.3 Scores Distribution for the German Bundesliga

6.3.1 Sporting Success Scores Distribution

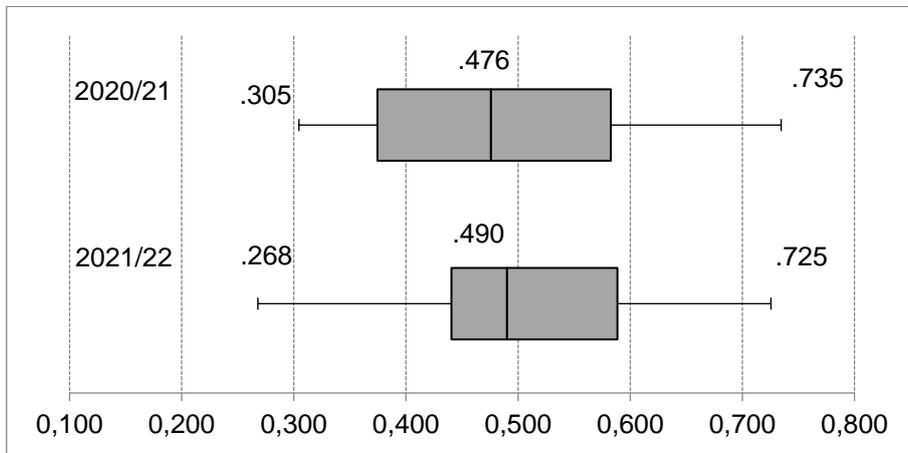


Figure 8: Sporting Success score dispersion among Bundesliga football clubs in 2020/21 and 2021/22

6.3.2 Financial Performance Scores Distribution

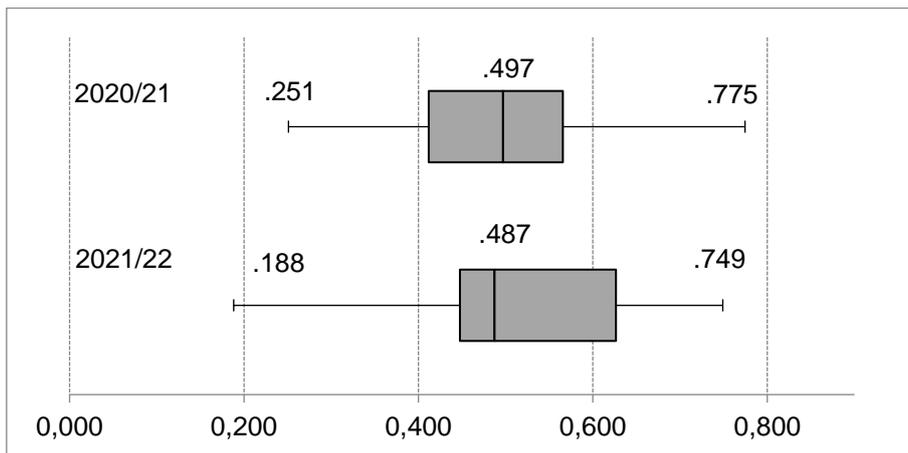


Figure 9: Financial Performance score dispersion among Bundesliga football clubs in 2020/21 and 2021/22

6.3.3 Fan Welfare Maximization Scores Distribution

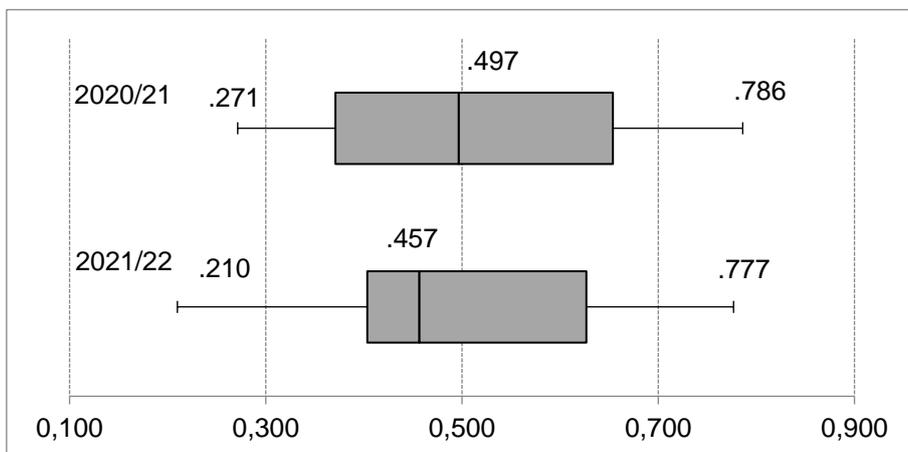


Figure 10: Fan Welfare score dispersion among Bundesliga football clubs in 2020/21 and 2020/22

6.3.4 Leadership & Governance Scores Distribution

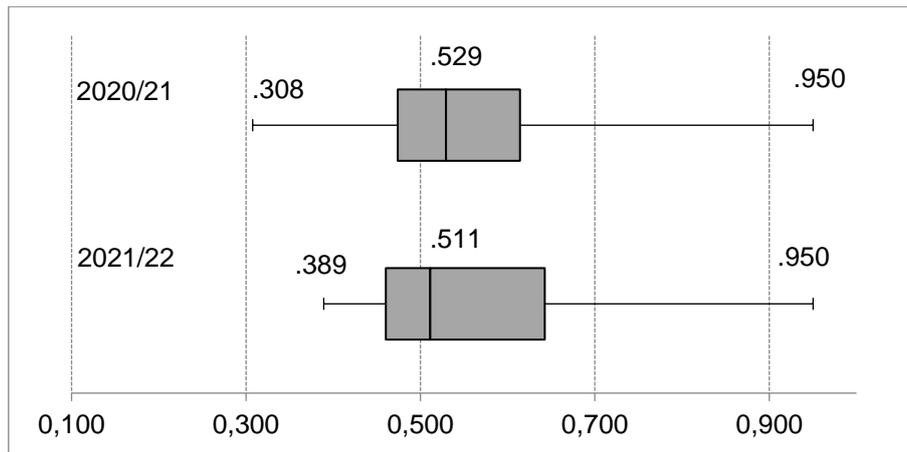


Figure 11: Leadership & Governance score dispersion among Bundesliga football clubs in 2020/21 and 2021/22

6.4 FCs' webpages

FOOTBALL CLUB	WEBPAGE
Borussia Dortmund	https://www.bvb.de/
FC Bayern München	https://fcbayern.com/de
Eintracht Frankfurt	https://www.eintracht.de/
RB Leipzig	https://rbleipzig.com/
Borussia Mönchengladbach	https://www.borussia.de/de/
SC Freiburg	https://www.scfreiburg.com/de/
Bayer 04 Leverkusen	https://www.bayer04.de/de-de/
1. FC Köln	https://fc.de/fc-info/startseite/
VfL Wolfsburg	https://www.vfl-wolfsburg.de/
VfB Stuttgart	https://www.vfb.de/
TSG 1899 Hoffenheim	https://www.tsg-hoffenheim.de/
1. FSV Mainz 05	https://www.mainz05.de/
Union Berlin	https://www.fc-union-berlin.de/de/
Hertha BSC	https://www.herthabsc.com/de
VfL Bochum	https://www.vfl-bochum.de/
Arminia Bielefeld	https://www.arminia.de/
FC Augsburg	https://www.fcaugsburg.de/
SpVgg Greuther Fürth	https://www.sgf1903.de/

List of Sources

A

ABENDZEITUNG. (2018). Rummenigge plädiert für Abschaffung von "50+1". Retrieved from <https://www.abendzeitung-muenchen.de/inhalt.schluss-mit-rumgeeiere-rummenigge-plaediert-fuer-abschaffung-von-50-1.1c55c685-c043-4b01-a4ae-521181a663b8.html>

ADAMS, R., BESSANT, J., & PHELPS, R. (2006). Innovation management measurement: A review. *International Journal of Management Reviews*, 8, 21–47.

ANDERSON, E. W., FORNELL, C., & LEHMANN, D. R. (1994). Customer satisfaction, market share, and profitability: Findings from Sweden. *Journal of Marketing*, 58(3), 53–66.

ANDREWS, M., & HARRINGTON, P. (2016). *Off Pitch: Football's financial integrity weaknesses, and how to strengthen them* (CID Working Paper No. 311). Cambridge, USA: Harvard Kennedy School.

AUDAS, R., DOBSON, S., & GODDARD, J. (2002). The impact of managerial change on team performance in professional sports. *Journal of Economics and Business*, 54, 633–650.

B

BAIN & COMPANY. (2013). *Management tools & trends 2013*. Boston, United States: Darrell Rigby, Barbara Bilodeau.

BAUER, H. H., SAUER, N. E., & SCHMITT, P. (2005). Customer - based brand equity in the team sport industry: Operationalization and impact on the economic success of sport teams. *European Journal of Marketing*, 39, 496–513.

BAUER, H. H., STOKBURGER-SAUER, N. E., & EXLER, S. (2008). Brand image and fan loyalty in professional team sport: A refined model and empirical assessment. *Journal of Sport Management*, 22, 205–226.

BECKSKY, A. (2011). The application of Balanced Scorecard in team sports. *APSTRACT: Applied Studies in Agribusiness and Commerce*, 5(3–4), 29–32.

BIANCONE, P.P., & SOLAZZI, A.(2012). Financial communication in professional football clubs. *Economia Aziendale Online* (Working Papers), Vol. 3, 153-174.

BIRKHÄUSER, S., KASERER, C., & URBAN, D. (2015). Investor presence and competition in major European football leagues (Working paper). Munich, Germany: Technische Universität München.

BORUSSIA DORTMUND. (2014). Suresh Letchmanan to head Singapore office. Retrieved from <http://www.bvb.de/eng/News/Overview/Suresh-Letchmanan-to-head-Singapore-office>

BOGNER, A., LITIG, B., & MENZ, W. (2009). Experteninterviews: Theorien, Methoden, Anwendungsfelder [Expert Interviews: Theories, Methods and Fields of Application] (3rd ed.). Wiesbaden, Germany: VS Verlag für Sozialwissenschaften.

BOYLE, D. (2012). Football Mad. Are we paying more for less? Retrieved from http://highpay-centre.org/files/hpc_06_07.pdf

BRYANT, L., JONES, D. A., & WIDENER, S. K. (2004). Managing value creation within the firm: An examination of multiple performance measures. *Journal of Management Accounting Research*, 16, 107–131.

BUNDESANZEIGER. (2022). Bundesanzeiger. Retrieved from <https://www.bundesanzeiger.de/>

BURK, V., GRIMMER, C. G., & PAWLOWSKI, T. (2014). Stadionzeitung meets Facebook [Stadium magazine meets Facebook]. *Marketing Review St. Gallen*, 31(2), 32–39.

C

CHEN, M., CHENG, S., & HWANG, Y. (2005). An empirical investigation of the relationship between intellectual capital and firms' market value and financial performance. *Journal of Intellectual Capital*, 6, 159–176.

CHENHALL, R. H., & LANGFIELD-SMITH, K. (2007). Multiple perspectives of performance measures. *European Management Journal*, 25, 266–282.

CRUZ, J.M., SCHREGEL, J.P., & ZÜLCH, H. (2022). Measuring robustness: sustainable success factors affecting professional football clubs. *Sports, Business and Management*, 3, 323–341.

D

- DALTON, D. R., DAILY, C. M., JOHNSON, J. L., & ELLSTRAND, A. E. (1999).** Number of directors and financial performance: A meta-analysis. *The Academy of Management Journal*, 42, 674–686.
- DAWSON, P., & DOBSON, S. (2002).** Managerial efficiency and human capital: An application to English association football. *Managerial and Decision Economics*, 23, 471–486.
- DELOITTE (2019).** Nachhaltigkeit in der Fußball-Bundesliga: Der Profifußball übernimmt Verantwortung. Retrieved from: <https://www2.deloitte.com/de/de/pages/technology-media-and-telecommunications/articles/nachhaltigkeit-bundesliga.html>
- DELOITTE (2021).** Annual Review of Football Finance 2021 - Riding the challenge. Retrieved from: <https://www2.deloitte.com/content/dam/Deloitte/uk/Documents/sports-business-group/deloitte-uk-annual-review-of-football-finance-2021.pdf>
- DEUTSCHER BUNDESTAG. (2012).** *Governance-Strukturen im deutschen Profi-Fußball [Governance structures in German professional football]*. Berlin, Germany.
- DFB. (2015).** „Wir arbeiten zusammen, nicht gegeneinander!“ [“We work together, not against each other!”]. *Fußballtraining*, 8, 6–10.
- DFB. (2017).** DFB - Deutscher Fußball-Bund e.V. Retrieved March 1, 2017, from <http://www.dfb.de/start/>
- DFB. (2020).** DFB - Deutscher Fußball-Bund e.V. Retrieved August 13, 2020, from <http://www.dfb.de/start/>
- DFB. (2022).** DFB - Deutscher Fußball-Bund e.V. Retrieved July 13, 2022, from <http://www.dfb.de/start/>
- DFL. (2013).** Bundesliga Report 2013: Die wirtschaftliche Situation im Lizenzfußball [Bundesliga Report 2013: the economic situation of licensed football]. Frankfurt, Germany.
- DFL. (2019).** Die Entwicklung der Leistungszentren. Retrieved from: <https://www.dfl.de/de/hintergrund/nachwuchsleistungszentren/wende-am-tiefpunkt-die-nachwuchsleistungszentren/>
- DFL. (2020).** The 2020 Economic Report: The financial Situation of German Licensed Football. Frankfurt, Germany.

- DFL. (2021a).** The 2021 Economic Report: The financial Situation of German Licensed Football. Retrieved from: https://media.dfl.de/sites/3/2021/03/EN_DFL_Wirtschaftsreport_2021_M.pdf
- DFL. (2021b).** Lizenzierungsordnung [Licensing procedure]. Retrieved from <https://media.dfl.de/sites/2/2021/03/Lizenzierungsordnung-LO-2021-03-05-Stand.pdf>
- DFL. (2021c).** Zusammenfassender Ergebnisbericht der „Taskforce Zukunft Profifußball“. Retrieved from https://media.dfl.de/sites/2/2021/02/2021-02-03_Zusammenfassender-Ergebnisbericht_Taskforce-Zukunft-Profifussball.pdf
- DFL. (2021d).** Beschluss der DFL-Mitgliederversammlung: Nachhaltigkeit wird Lizenzierungskriterium für Bundesliga und 2. Bundesliga. Retrieved from <https://www.dfl.de/de/aktuelles/beschluss-der-dfl-mv-nachhaltigkeit-wird-lizenzierungskriterium/>
- DFL. (2022a).** Finanzkennzahlen der Proficlubs. Retrieved from: <https://media.dfl.de/sites/2/2022/05/Clubs-der-Bundesliga-2022-23-Geschaeftsjahresende-2021.pdf>
- DFL. (2022b).** The 2022 Economic Report: The financial Situation of German Licensed Football. Retrieved from: https://media.dfl.de/sites/3/2022/04/EN_DFL_Wirtschaftsreport_2022_M.pdf
- DFL. (2022c).** #Bundesligawirkt. Hintergrund zum Engagement. Retrieved from: <https://bundesliga-wirkt.dfl.de/downloads>
- DIMITROPOULOS, P. E., & TSAGKANOS, A. (2012).** Financial performance and corporate governance in the European football industry. *International Journal of Sport Finance*, 7, 280–308.

E

- EDWARDS, R., & HOLLAND, J. (2013).** *What is qualitative interviewing?* (1st ed.). London, United Kingdom: Bloomsbury Publishing.
- EINTRACHT FRANKFURT. (2017).** USA Tour in July 2017. Retrieved from <http://www.eintracht.de/en/news/article/usa-tour-in-july-2017-58768/>

ELYASIANI, E., & JIA, J. (2010). Distribution of institutional ownership and corporate firm performance. *Journal of Banking & Finance*, 34, 606–620.

F

FANPAGE KARMA. (2022). Fanpage Karma: Monitor Facebook marketing - Statistics and reporting tools. Retrieved from <http://www.fanpagekarma.com/>

FC BAYERN MÜNCHEN. (2014). FCB opens New York City office. Retrieved from <https://fcbayern.com/en/news/2014/08/fcb-open-office-in-new-york-city>

FC PLAYFAIR (2022). Situationsanalyse Nachhaltigkeit in der Bundesliga 2021/22. Retrieved from: https://fcplayfair.org/wp-content/uploads/2022/07/Report_Nachhaltigkeit_FCPF_20220714.pdf

FRANCK, E., & LANG, M. (2014). A Theoretical Analysis of the Influence of Money Injections on Risk Taking in Football Clubs. *Scottish Journal of Political Economy*. Vol. 61, N°4, 430–454.

FRICK, B., & SIMMONS, R. (2008). The impact of managerial quality on organizational performance: evidence from German soccer. *Managerial and Decision Economics*, 8, 593–600.

FRITZ, T. (2006). *Fußball und Strategie: Eine effizienzorientierte Analyse der Fußballbundesliga [Football and strategy: An efficiency-oriented analysis of the Bundesliga]* (1st ed.). Mering, Germany: Rainer Hampp Verlag.

FUßBALLMAFIA. (2022). Fußballmafia: Straftabelle & Mitgliederzahlen. Retrieved from <https://www.fussballmafia.de>

G

GARCIA-DEL-BARRIO, P., & SZYMANSKI, S. (2009). Goal! Profit maximization versus win maximization in soccer. *Review of Industrial Organization*, 34, 45–68.

GLASS, G. V. (1976). Primary, secondary, and meta-analysis of research. *Educational Researcher*, 5(10), 3–8.

GLOBERSON, S. (1985). Issues in developing a performance criteria system for an organization. *International Journal of Production Research*, 23(4), 639–646.

H

- HANDELSBLATT. (2004).** IBMs ehemaliger Deutschland-Chef Erwin Staudt krepelt den VfB Stuttgart um: Zwischen Strafraum und Scorecard [VfB Stuttgart to be restructured by former IBM Germany CEO Erwin Staudt: In-between penalty area and scorecard]. Retrieved from <http://www.handelsblatt.com/unternehmen/management/ibms-ehemaliger-deutschland-chef-erwin-staudt-krepelt-den-vfb-stuttgart-um-zwischen-strafraum-und-scorecard/2302234.html>
- HAUSER, J., TELLIS, G. J., & GRIFFIN, A. (2006).** Research on innovation: A review and agenda for Marketing Science. *Marketing Science*, 25, 687–717.
- HEIDBRINK, M., KOCHANEK, T., BRANDS, J., & JENEWEIN, W. (2014).** Kunden zu Fans machen [Transforming customers to fans]. *Marketing Review St. Gallen*, 31(2), 10–19.
- HILLMAN, A. J., & DALZIEL, T. (2003).** Boards of directors and firm performance: Integrating agency and resource dependence perspectives. *The Academy of Management Review*, 28, 383–396.
- HOLZMÜLLER, H. H., CRAMER, C., & THOM, D. C. (2014).** Markenführung im Profi-Fußball [Brand management in professional football]. *Marketing Review St. Gallen*, 31(2), 68–83.
- HORIZONT. (2017).** Watzkes Wohnzimmer [Watzke's living room]. *HORIZONT Award Magazin 2017*, 16–20.
- HORIZONT. (2021).** Olli Kahns Malus. *Horizont, Nr. 31-32/2021*, 4.
- HÜPPI, M. (2014).** Führung im modernen Fußball [Leadership in modern football]. *Marketing Review St. Gallen*, 31(2), 84–92.
- ## I
- IMUG. (2016).** *Nachhaltigkeit im Profifußball: Offensivspektakel oder Abwehrschlacht? Ein Blick auf die 1. Bundesliga [Sustainability in professional football: Offensive spectacle or defensive battle? Spotlight on the German Bundesliga]*. Hannover, Germany.
- INVESTOPEDIA. (2017).** Institutional ownership. Retrieved from <http://www.investopedia.com/terms/i/institutional-ownership.asp>

ITTNER, C. D., & LARCKER, D. F. (1998). Are nonfinancial measures leading indicators of financial performance? An analysis of customer satisfaction. *Journal of Accounting Research*, 36 (Studies on Enhancing the Financial Reporting Model), 1–35.

J

JAIN, D., & SINGH, S. S. (2002). Customer lifetime value research in marketing: A review and future directions. *Journal of Interactive Marketing*, 16(2), 34–46.

JENSEN, M. C., & MECKLING, W. H. (1976). Theory of the firm: Managerial behavior, agency costs and ownership structure. *Journal of Financial Economics*, 3, 305–360.

JUSCHUS, A., LEISTER, R., & PRIGGE, S. (2016A). Die Corporate-Governance-Tabelle: Eine Bestandsaufnahme der Corporate Governance in der Ersten Fußballbundesliga (Teil A). *Zeitschrift Für Corporate Governance*, 5, 212–220.

JUSCHUS, A., LEISTER, R., & PRIGGE, S. (2016B). Die Corporate-Governance-Tabelle: Eine Bestandsaufnahme der Corporate Governance in der Ersten Fußballbundesliga (Teil B). *Zeitschrift Für Corporate Governance*, 6, 245–251.

JUSCHUS, A., LEISTER, R., PRIGGE, S., & DALLAS, Z. (2022). Fußball-Bundesligen vs. English Premier League - Vergleich der Corporate Governance. *Zeitschrift für Corporate Governance*, 1/22, 5-14.

K

KAINZ, F., OBERLEHNER, C., KREY, F., & WERNER, C. (2014). Wie Social Media Marketing im Fußball wirkt [How social media marketing works in football]. *Marketing Review St. Gallen*, 31(2), 40–57.

KAPLAN, R. S., & NORTON, D. P. (1992). The Balanced Scorecard – Measures that drive performance. *Harvard Business Review*, 70 (January-February), 71–79.

KAPLAN, R. S., & NORTON, D. P. (1993). Putting the Balanced Scorecard to work. *Harvard Business Review*, 71 (September-October), 134–147.

KAPLAN, R. S., & NORTON, D. P. (1996). *The Balanced Scorecard: Translating strategy into action* (1st ed.). Boston, United States: Harvard Business School Press.

KAPLAN, R. S., & NORTON, D. P. (2001). Transforming the Balanced Scorecard from performance measurement to strategic management: Part I. *Accounting Horizons*, 15, 87–104.

KAPLAN, R. S., & NORTON, D. P. (2004). *Strategy maps: Der Weg von immateriellen Werten zum materiellen Erfolg* (P. Horváth & B. Gaiser, Trans.) [*Strategy maps: Converting intangible assets into tangible outcomes*] (1st ed.). Stuttgart, Germany: Schäffer-Poeschel Verlag Stuttgart.

KAWOHL, J., ZEIBIG, D., & MANZ, E. (2016). *Profisport 4.0: Wohin rollt die Fußballbundesliga?* [Professional Sports 4.0: Where is the Bundesliga aiming to?] Berlin, Germany.

KELLER, C. (2008). *Steuerung von Fußballunternehmen: Finanziellen und sportlichen Erfolg langfristig gestalten* [*Managing football companies: Shaping financial and athletic success sustainably*] (1st ed.). Berlin, Germany: Erich Schmidt Verlag GmbH & Co.

KICKER. (2019). Fünf Fragen und fünf Antworten zur Europa Conference League. Retrieved from https://www.kicker.de/fuenf_fragen_und_fuenf_antworten_zur_europa_conference_league-758705/artikel

KICKER. (2022). Sportnachrichten [Sport news]. Retrieved from <http://www.kicker.de/>

KLEINAU, C., KREZMANN, C., ZÜLCH, H. (2016). Minimizing Corporate Social Irresponsibility to Maximize Social Welfare. *Global Journal of Business Research*, 10, 77-91.

KPMG. (2017). Football Benchmark - Available information. Retrieved March 1, 2017, from https://www.footballbenchmark.com/available_information

KRIVOGORSKY, V. (2006). Ownership, board structure, and performance in continental Europe. *The International Journal of Accounting*, 41, 176–197.

L

LANG, J. C. (2008). *Corporate Governance der Fußballunternehmen: Leitung, Überwachung und Interessen im Sportmanagement* [*Corporate governance of football companies: Management, monitoring, and interests in sport management*] (1st ed.). Berlin, Germany: Erich Schmidt Verlag GmbH & Co.

LAUFMANN, A.-K. (2016). Werder Bremen: Von der Philanthropie zu einem strategisch verankerten Corporate Social Responsibility Management [Werder Bremen: from philanthropy to a strategically-anchored corporate social responsibility management]. In *H. Künzel (Ed.), Erfolgsfaktor performance management: Leistungsbereitschaft einer aufgeklärten Generation [Success factor performance management: commitment of an enlightened generation]* (pp. 199–210). Heidelberg, Germany: Springer Gabler.

LIGAINSIDER (2022). Sommerfahrplan der Bundesliga-Klubs 2021/22. Retrieved from: https://www.ligainsider.de/bundesliga_1008/ueberblick-das-ist-der-sommerfahrplan-der-bundesligisten-2021-22-304475/

LITTKEMANN, J., OLDENBURG-TIETJEN, F., & HAHN, T. (2014). Hamburger Sportverein e. V. – quo vadis? Eine Analyse der wirtschaftlichen Lage [Hamburger Sportverein e. V. – quo vadis? An analysis of the economic situation]. *Sciamus – Sport Und Management*, 2014(4), 1–16.

M

MADDEN, P. (2012). Fan welfare maximization as a club objective in a professional sports league. *European Economic Review*, 56, 560–578.

MCGUIRE, J. B., SUNDGREN, A., & SCHNEEWEIS, T. (1988). Corporate social responsibility and firm financial performance. *The Academy of Management Journal*, 31, 854–872.

MEEDIA (2021). Bundesliga-Saison endet mit Alltime-Pay-TV-Rekord, FC Bayern ist Quoten-Meister. Retrieved from: <https://meedia.de/2021/05/25/bundesliga-saison-endet-mit-alltime-pay-tv-rekord-fc-bayern-ist-quoten-meister/>

MEYNHARDT, T., & FRANTZ, E. (2016). *Der Public Value des RB Leipzig - Eine Untersuchung des Gemeinwohlpotenzials des RB Leipzig [The public value of RB Leipzig - An investigation of RB Leipzig's public good potential]*. Leipzig, Jena, Germany: HHL Leipzig Graduate School of Management and Friedrich Schiller University Jena.

N

NEELY, A., GREGORY, M., & PLATTS, K. (1995). Performance measurement system design: A literature review and research agenda. *International Journal of Operations & Production Management*, 15(4), 80–116.

O

OECD. (2005). Glossary of statistical terms: Corporate governance. Retrieved from <https://stats.oecd.org/glossary/detail.asp?ID=6778>

ORLITZKY, M., SCHMIDT, F. L., & RYNES, S. L. (2003). Corporate social and financial performance: A meta-analysis. *Organization Studies*, 24, 403–441.

P

PRIGGE, S. (2015). Memberness A research proposal for a concept to describe, analyze, and measure members' influence in a professional football club as part of its corporate governance. *HSBA Comments*, 01/2015, 1–5.

Q

QUITZAU, J. (2016). Das Spiel als Premium-Produkt: Die Ökonomie der Bundesliga [The game as premium product: The economy of the Bundesliga]. Retrieved from <http://www.bpb.de/gesellschaft/sport/bundesliga/160773/oekonomie-der-bundesliga?p=all>

R

RAN (2021). Bundesliga 2021/2022: Die Dauerkartenpreise aller 18 Vereine - Vergleich. Retrieved from: <https://www.ran.de/fussball/bundesliga/bildergalerien/bundesliga-2021-2022-die-dauerkartenpreise-aller-18-vereine-vergleich-mit-premier-league>

REICHHELD, F. F., & SCHEFTER, P. (1998). E-loyalty: Your secret weapon on the web. *Harvard Business Review*, 78 (July-August), 105–113.

REINARTZ, W., KRAFFT, M., & HOYER, W. D. (2004). The customer relationship management process: Its measurement and impact on performance. *Journal of Marketing Research*, 41, 293–305.

RELVAS, H., LITTLEWOOD, M., NESTI, M., GILBOURNE, D., & RICHARDSON, D. (2010). Organizational structures and working practices in elite European professional football clubs: Understanding the relationship between youth and professional domains. *European Sport Management Quarterly*, 10, 165–187.

RESPONSIBALL (2020). *Responsiball Ranking 2020: The Tenth Annual Social Responsibility Ranking of International Football Leagues*. Biel, Switzerland.

ROHDE, M., & BREUER, C. (2016). Europe's elite football: Financial growth, sporting success, transfer investment, and private majority investors. *International Journal of Financial Studies*, 4(2), 12, 1–20.

ROSENBUSCH, N., BRINCKMANN, J., & BAUSCH, A. (2011). Is innovation always beneficial? A meta-analysis of the relationship between innovation and performance in SMEs. *Journal of Business Venturing*, 26(4), 441–457.

S

SIMILARWEB. (2022). SimilarWeb - Digital market intelligence and website traffic. Retrieved from <https://www.similarweb.com/>

SLOANE, P. J. (1971). The economics of professional football; the football club as a utility maximiser. *Scottish Journal of Political Economy*, 18, 2. 121–46.

SPOAC. (2017). *SPOAC Sportbusiness-Studie 2017 [SPOAC sport business study 2017]*. Hamburg, Germany: Sascha L. Schmidt, Felix Krause.

SPORT POSITIVE. (2021). Environmental sustainability BUNDESLIGA 2021. Retrieved from: <https://www.sportpositiveleagues.com/bl-2021-english/>

SPRENG, R. A., MACKENZIE, S. B., & OLSHAVSKY, R. W. (1996). A reexamination of the determinants of consumer satisfaction. *Journal of Marketing*, 60(3), 15–32.

STANFORD UNIVERSITY. (2015). Equality of opportunity (Stanford Encyclopedia of Philosophy). Retrieved March 26, 2017, from <https://plato.stanford.edu/entries/equal-opportunity/#LevPlaFieConLucEga>

STATISTA. (2020). Statista - das Statistik-Portal: Statistiken, Marktdaten & Studien from year 2020. Retrieved from: <https://de.statista.com/>

STATISTA. (2021). Statista - das Statistik-Portal: Statistiken, Marktdaten & Studien from year 2021. Retrieved from: <https://de.statista.com/>

STATISTA. (2022). Statista - das Statistik-Portal: Statistiken, Marktdaten & Studien from year 2022. Retrieved from: <https://de.statista.com/>

SZYMANSKI, S. (2014). Insolvency in English football. *Handbook on the Economics of Professional Football*, chapter 7, 100-116

T

TECHNISCHE UNIVERSITÄT BRAUNSCHWEIG. (2018). *Fußballstudie 2018: Die Marken-Landschaft der Fußball-Bundesliga [Football study 2018: The brand environment of the football Bundesliga]*. Braunschweig, Germany: David M. Woisetschläger, Christof Backhaus, Mona Hageböling, Vanessa Jaensch.

TECHNISCHE UNIVERSITÄT BRAUNSCHWEIG. (2019). *Fußballstudie 2019: Die Markenlandschaft der Fußball-Bundesliga [Football study 2019: The brand environment of the football Bundesliga]*. Braunschweig, Germany: David M. Woisetschläger, Christof Backhaus, Mona Hageböling, Vanessa O'Neill.

TRANSFERMARKT. (2022). Fußball-Transfers, Gerüchte, Marktwerte und News [Football transfers, rumors, market values, and news]. Retrieved from <http://www.transfermarkt.de/>

U

UEFA. (2015). UEFA Club Licensing and Financial Fair Play Regulations, Edition 2015

UEFA. (2021). UEFA rankings for club competitions. Retrieved from <https://www.uefa.com/memberassociations/uefarankings/club/#/yr/2021>

UEFA. (2022). Protecting the game. UEFA Financial sustainability. Retrieved from <https://www.uefa.com/insideuefa/protecting-the-game/financial-sustainability/>

V

VINCK, C. (2009). *Die Entwicklung einer Balanced Scorecard für eine Non-Profit-Organisation: Am Beispiel des Deutschen Tennis Bundes e. V. [Developing a Balanced Scorecard for a non-profit-organisation: The example of German Tennis Federation]*. Hagen, Germany: Books on Demand.

W

WEHRLE, A., & HEINZELMANN, M. (2004). Reporting und strategische Steuerung im Profifußball: Konzeption und Umsetzung eines Balanced Scorecard basierten Systems beim VfB Stuttgart [Reporting and strategic management in professional football: Conception and implementation of a Balanced Scorecard-based system at VfB Stuttgart]. *Controlling: Zeitschrift Für Erfolgsorientierte Unternehmenssteuerung*, 16, 349–354.

WELT. (2018). Die Schlüsselrolle des Philipp Lahm in der deutschen Fußball-Krise. Retrieved from: <https://www.welt.de/sport/plus180682454/Nationalmannschaft-Schlueselrolle-des-Philipp-Lahm-in-der-Fussballkrise.html>

WHOSCORED. (2022). WhoScored.com - Revolutionising Football statistics. Retrieved from <https://www.whoscored.com>

Z

ZÜLCH, H., CRUZ, J., & KIRSCH, B. (2021). Nachhaltigkeit in der Bundesliga – Teil 1: Wie lässt sich die Nachhaltigkeit der Bundesliga-Klubs aus der Fanperspektive beurteilen? *HHL Football Factsheet N° 05/21, November 2021.*

ZÜLCH, H., CRUZ, J., & SCHREGEL, J. (2021). Professionalisierung im Profifußball auf der Basis des FoMa Q-Score: Treiber und Trends. *HHL Football Factsheet N° 01/21, May 2021.*

ZÜLCH, H., & KIRSCH, B. (2022). Nachhaltigkeit und Nachhaltigkeitskommunikation in der Fußball-Bundesliga, *Zeitschrift für internationale und kapitalmarktorientierte Rechnungslegung (KoR)*, 4, 186-188.

ZÜLCH, H., & PALME, M. (2017). Management Quality of Professional Football Clubs: The Football Management (FoMa) Q-Score 2017. *HHL Working Paper N° 167, August 2017.*

ZÜLCH, H., PALME, M. & JOST (2020). Management Quality of Professional Football Clubs: The Football Management (FoMa) Q-Score 2018. *Sport, Business and Management*, 5, 567-598.

ZÜLCH, H., PALME, M., JOST, S. & KIRSCH, B. (2021). Management Quality of Professional Football Clubs: The Football Management (FoMa) Q-Score 2021. *HHL Working Paper N° 193, August 2021.*

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