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TALENT MANAGEMENT AS A VITAL BUSINESS MODEL COMPONENT: THE CASE OF EUROPEAN PROFESSIONAL FOOTBALL CLUBS

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Marc Valentin Lenz

OVERVIEW

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LIST OF ABBREVIATIONS

BE	Break-even
BL	German Bundesliga
BIC	Bayesian information criterion
CAS	Court of Arbitration for Sport
cf.	compare (“confer”)
CFCB IC	Club Financial Control Body Investigatory Chamber
CFCB AC	Club Financial Control Body Adjudicatory Chamber
CIES	International Centre for Sports Studies
CL	Club Licensing
CLFFPR	UEFA Club Licensing and Financial Fair Play Regulations
CSM	Center for Sports and Management
CTP	Club-trained player
DFB	German Football Association (“Deutscher Fussball Bund”)
DFL	German Football League (“Deutsche Fussball Liga”)
e.g.	for example (“exempli gratia”)
e.V.	Association (“eingetragener Verein”)
EC	European Commission
ECA	European Club Association
Eds.	Editors
EPFC	European professional football club
EPL	English Premier League
EUR	Euro
FA	Football association
FFP	Financial Fair Play
FIFA	International Federation of Association Football (“Fédération Internationale de Football Association”)
FY	Financial year

H	Hypothesis
HC	Human capital
i.e.	that is (“id est”)
m	Million
Max.	Maximum
Min.	Minimum
N	Number of observations
OLS	Ordinary least squares
p.	Page
p.a.	Per annum
Pr	Pearson chi2
Pr()	Probability function
PwC	PricewaterhouseCoopers
r	Pearson’s r
R2	Coefficient of determination
rpb	Point Biseral Correlation
SA	Settlement Agreement
SD	Standard deviation
SE	Standard error
TD	Talent development
Thd.	Thousand
TM	Talent management
TPO	Third-party ownership
UCL	UEFA Champions League
UEFA	Union of European Football Associations (“Union des Associations Européennes de Football”)
UEL	UEFA Europa League
UK	United Kingdom
UNREL.	Unrelated

V	Cramer’s V
VIF	Variance inflation factor
WHU	Wissenschaftliche Hochschule für Unternehmensführung
YD	Youth development
YEA	Youth elite academy

LIST OF SYMBOLS

***	Statistical significance at the .1% ($p < .001$) level
**	Statistical significance at the 1% ($p < .01$) level
*	Statistical significance at the 5% ($p < .05$) level
†	Statistical significance at the 10% ($p < .1$) level
τ	Kendall's Tau-b
ρ	Spearman's rho
β	Regression coefficients
Ɛ	Error term
p	Probability value
Φ	Logit function
%	Per cent
#	Number

1. INTRODUCTION

"Talent management is more than just a competitive advantage; it is a fundamental requirement for business success."

(Silzer & Dowell, 2010b, p. 8)

1.1 BACKGROUND AND MOTIVATION

Practitioners and academics consider talents as a distinctive resource that can determine an advantageous organizational outlook – in various business settings, including sport (Lewis & Heckman, 2006; Collings & Mellahi, 2009; Tarique & Schuler, 2010; Meyers & van Woerkom, 2014; KPMG, 2012; PricewaterhouseCoopers [PwC], 2012, 2014a, 2017; European Club Association [ECA], 2012, 2018b). Thereby, talents were set in focus by McKinsey & Company consultants who highlighted the "war for talent", i.e. organizations' imperative to attract, develop and retain talents as a core organizational performance driver (Chambers *et al.*, 1998).

Talent Management [TM] – as a "central element of managerial discourse and organizational practice" (McDonnell *et al.*, 2017, p. 87) – has subsequently emerged as a key topic in management literature in recent decades (McDonnell *et al.*, 2017; Cappelli & Keller, 2017; Thunnissen, Boselie, & Fruytier, 2013a; Scullion & Collings, 2011; Tarique & Schuler, 2010). The initial phenomena-driven research field is advanced continuously by complementary conceptual literature, resulting in an increasing consensus on its theoretical framework and definitions (Gallardo-Gallardo *et al.*, 2015). According to the predominant resource-based view and widely accepted definition (e.g., Collings & Mellahi, 2013; Gallardo-Gallardo *et al.*, 2015; Collings, Cascio, & Mellahi, 2017), strategic TM is considered as:

> "the systematic identification of key positions which differentially contribute to the organization's sustainable competitive advantage, the development of a talent pool of high potential and high performing incumbents to fill these roles, and the development of a differentiated human resource architecture to facilitate filling these positions with competent incumbents and to ensure their continued commitment to the organization" (Collings & Mellahi, 2009, p. 304).

Talents are hence understood as valuable and unique human capital [HC] (Lepak & Snell, 1999) who are placed in pivotal positions (i.e., central and rare roles with significant performance differentials) in expectation of a disproportionate organizational return (e.g., Becker & Huselid, 2006; Boudreau & Ramstad, 2007; Cascio & Boudreau, 2016). The alleged centrality of talents for the organization subsequently leads to workforce differentiation and significant investments in pivotal talent pools (Boudreau & Ramstad, 2006), i.e., segments of talents whose HC (allegedly) contributes extensively to strategic success (e.g., Huselid & Becker, 2011; Collings *et al.*, 2017; Day & O'Connor, 2017).

In contrast to the postulated academic and practical importance of TM, however, evidence confirming the underlying assumptions of the prevalent resource-based definition are scarce (e.g., Bowman & Hird, 2014; Cascio & Boudreau, 2016; McDonnell *et al.*, 2017; Sparrow, Scullion, & Tarique, 2014a). In other words: the TM research field is built upon implicit claims, while its empirical foundation and substantiation is limited (e.g., Sparrow & Makram, 2015; McDonnell *et al.*, 2017). Conceptual claims and key gaps must hence be addressed in order to advance the field (e.g., Bowman & Hird, 2014; Collings *et al.*, 2017), *inter alia:* First, the relevance of effective TM, and its consequent centrality for organizational business models and strategies, is subject to confirmation in several, international business contexts (e.g., Collings *et al.*, 2017; Cascio & Boudreau, 2016; Vaiman & Collings, 2013). Second, and of utmost importance, the central assumption – i.e., that TM creates organizational value – must be scrutinized in detail (e.g., Sparrow & Makram, 2015; Bethke-Langenegger, Mahler, & Staffelbach, 2011). Third, the research gap on the determinants of talents' performance – i.e., mediating organizational performance – is to be covered in order to lead talents into pivotal positions and hence to strengthen the organizational effectiveness of TM (e.g., McDonnell *et al.*, 2017; Cascio & Boudreau, 2016; Al Ariss, Cascio, & Paauwe, 2014).

Motivated by paralleled observations in European football – *inter alia*, the postulation of TM as the panacea for sustainable and competitive operations (e.g., ECA, 2015; Bailey, 2018), with significant investments in TM being made (e.g., Deutsche Fussball Liga [DFL], 2018b) despite prevalent ineffective TM operations (e.g., Güllich, 2014; Dowling *et al.*, 2018) – my dissertation targets a key academic area that is further considered of utmost practical relevance. Complementary to an extension of the empirical foundation of the TM literature, practical implications are drawn for organizations generally, and specifically for European professional football clubs [EPFCs] and their stakeholders.

1.2 RESEARCH FOCUS AND THEORETICAL RELEVANCE

Within this dissertation, the overarching subject of "*TM as a vital business model component*" is disaggregated in three distinct but interlinked research foci, contributing to the extant literature by addressing *the relevance, value and (in)effectiveness of organizational TM*:

First, substantiating the postulated *practical relevance of TM* (Sparrow *et al.*, 2014a) via extended research of "real, contemporary issues in global business" (Doh, 2015, p. 609) is essential for the advancement of the phenomenon-based research field of TM (Collings *et al.*, 2017). Practitioner reports, frequently on single-site cases, constitute a limited but predominant justification for TM practices (Sparrow *et al.*, 2014a; Collings *et al.*, 2017). Academic research incorporating cross-organizational plus multinational business contexts is a required complement (e.g., Vaiman & Collings, 2013; Sparrow & Makram, 2015; Collings *et al.*, 2017). Thereby, the postulated relevance for advantageous organizational outlooks (e.g., Silzer & Dowell, 2010a) necessitates supplementary research on the interlinked areas of TM and strategy (e.g., Sparrow, Scullion, & Tarique, 2014b; McDonnell *et al.*, 2017).

Second, and interconnected to the prior focus on relevance, the central tenet of the TM research field is to be scrutinized by addressing the core question of: *Does TM create organizational value?* Current failure to demonstrate the linkage of TM and organizational performance constitutes a significant limitation to the prevalent TM literature (Sparrow & Makram, 2015; Cascio & Boudreau, 2016; McDonnell *et al.*, 2017). This failure can be traced back to the difficulty of identifying both pivotal employees (e.g., Sparrow *et al.*, 2014b) and successful TM (e.g., Bethke-Langenegger *et al.*, 2011), while the concepts of organizational outcomes are too narrow (e.g., Collings *et al.*, 2017). Addressing these respective shortcomings, and substantially, the postulated economic and non-economic value of TM, is central to the evolution of TM research (McDonnell *et al.*, 2017) and its positioning in international peer-reviewed journals (Collings *et al.*, 2017).

Third, TM practices create organizational value by enhancing the (mediating) performance of the individual talent (e.g., Collings & Mellahi, 2009; Ployhart & Cragun, 2017). Consequently, as a complement to the organizational perspective, a key gap in TM research on "[…] what determines high performance" (McDonnell *et al.*, 2017, p. 117) of an individual talent is to be addressed. Scrutinizing the antecedents of talents' performance is essential in

order to strengthen organizational TM practices and their effectiveness (Ployhart & Cragun, 2017), i.e., to identify talents early (Bowman & Hird, 2014) and to develop them into pivotal positions for the (postulated) creation of organizational TM value (McDonnell *et al.*, 2017). Research extending the literature on the link between the individual talent and organizational TM practices is therefore deemed to be of inherent importance to advance the field (e.g., Collings *et al.*, 2017; Ployhart & Cragun, 2017; Minbashian, 2017).

1.3 RESEARCH APPROACH

The three outlined research foci are scrutinized in the context of professional sport, and specifically the pivotal talent pools of EPFCs: Articles 1 and 2, i.e., addressing the organizational perspective of TM, utilize a unique dataset of 110 top-division EPFCs from 24 European football associations [FA].[1] Data were polled in collaboration with the Union of European Football Associations [UEFA].[2] The dataset is complemented in accordance with each article's specific research question, *inter alia*, with data on TM performance from the International Centre for Sports Studies [CIES], on financial indicators from the UEFA Benchmarking Reports (2018a, 2017b) or on further organizational characteristics from expert evaluations and public sources. Article 3, i.e., addressing the individual talent's perspective, is based on data from the youth elite academy [YEA] of a German Bundesliga [BL] club on 203 talents, covering personality characteristics over five seasons (i.e., ten consecutive assessment periods) and supplementary performance indicators from the German Football Association [DFB]. The results were derived using a variety of statistical methods, specifically descriptives, pairwise correlation analyses (Cramers' V, Kendall's Tau, Spearman's Rank coefficient, Point Biseral coefficient, Pearson's r), and the estimation of ordinary least squares [OLS] as well as binary probit models.

1 Top-division EPFCs from the following countries have participated: Austria, Belgium, Belarus, Bulgaria, Croatia, Denmark, England, Finland, France, Germany, Hungary, Italy, the Netherlands, Norway, Portugal, Russia, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and Ukraine.

2 158 clubs from 25 national associations were approached; 113 clubs from 24 national associations responded. Three clubs were excluded from the dataset due to incomplete data and/or missing consent to use the data for academic research. Based on the consent/authorization that was granted by each of the 110 clubs in the sample, the dataset was provided in fully anonymized form by UEFA.

For all three research endeavors, the characteristics of and focus on pivotal talent pools constitute an ideal labor market laboratory (cf., Kahn, 2000) – from both an empirical and a conceptual perspective:

Empirically, professional sport offers a controlled, highly structured and competitive setting in which talents aim for homogenous targets (Schmidt, Torgler, & Jung, 2017). Various labor market questions have been addressed in this context for decades by other researchers (starting with, e.g., Rottenberg, 1956; Becker, 1962; to lately, e.g., Göke, Prinz, & Weimar, 2014; Prinz & Weimar, 2017; Merkel, Schmidt, & Torgler, 2017; Kassis *et al.*, 2017). For the research focus on TM, in specific, the scrutinized YEA of EPFCs (i.e., pivotal talent pools) offer distinctive features and key advantages that overcome significant (methodological) limitations of previous TM research: Firstly, it provides a direct focus on pivotal talent pools and, consequently, on (from the organization classified) talents (Boudreau & Ramstad, 2006, 2007; Thunnissen *et al.*, 2013a; Cascio & Boudreau, 2016; McDonnell *et al.*, 2017). Secondly, successful TM is explicitly defined and made quantifiable on the basis of objective performance variables (e.g., Nesti & Sulley, 2014; Kassis *et al.*, 2017; McDonnell *et al.*, 2017). Thirdly, economic and non-economic indicators are available, extending the narrow conceptualization of organizational outcomes (e.g., Collings, 2014; Collings *et al.*, 2017).

In addition, from a conceptual perspective, EPFCs share central characteristics with business entities in other industries, such as the "mutual concern for competing externally, cooperating internally, managing human resources strategically, and developing appropriate systems and structures" (Berman, Down, & Hill, 2002, p. 17). Talents are further considered as the central organizational input factor (Hall, Szymanski, & Zimbalist, 2002), leading to significant investments in pivotal talent pools (e.g., Huselid & Becker, 2011; ECA, 2015; DFL, 2018b).

In conclusion, conducting the dissertation with a focus on the pivotal talent pools of EPFCs provides significant methodological advantages, while the outlined parallels between TM in football[3] and in other industries secure the transferability of results.

3 Please note that throughout this dissertation the term "football" is consistently used, i.e., referring to European football, also known as "soccer" in other parts of the world.

1.4 DISSERTATION STRUCTURE AND ABSTRACTS

This dissertation comprises five chapters: subsequent to this introductory chapter 1, chapters 2-4 constitute standalone but interlinked research articles addressing the outlined key topics on the organizational relevance, value and effectiveness of TM. All articles contain separate introductions, theoretical embedding, analyses and conclusions. In chapter 5, interlinked conclusions on the overarching dissertational subject of *"TM as a vital business model component"* are drawn, and future research directions outlined. Figure 1.I illustrates the dissertation structure, followed by abstracts of the individual research articles:

Figure 1.I: Structure of the Dissertation

Chapter 1	**Introduction** Background and Motivation, Research Focus and Theoretical Relevance, Research Approach, Dissertation Structure and Abstracts
Chapter 2 *[Article 1]*	**Relevance of Talent Management** Core Business Models of European Professional Football Clubs: The Relevance of Talent Management as a Countervailing Measure in the Current Business Context
Chapter 3 *[Article 2]*	**Value of Talent Management** Does Talent Management Create Organizational Value? Empirical Evidence from the Talent Pools of European Professional Football Clubs
Chapter 4 *[Article 3]*	**Talent Management Effectiveness/Antecedents of Talents' Performance** The Impact of Personality Traits on Talents' Performance throughout Development Phases: Evidence from a Pivotal Talent Pool in Football
Chapter 5	**Conclusion** Overall Summary, Research Contributions and Future Directions

1.4.1 [Article 1] Core Business Models of EPFCs: The Relevance of Talent Management as a Countervailing Measure in the Current Business Context

Within the first article, the postulated *practical relevance of TM* is addressed in the multinational and cross-organizational context of European football. Following a detailed contextualization of the industry, the interdependencies of implemented business models,

prospective strategy components (i.e., defining a future business model (Casadesus-Masanell & Ricart, 2010)) and prevalent TM structures are scrutinized for 110 EPFCs from 24 national associations. The descriptive and bivariate results illustrate the inter-linkages of prevalent (football-specific) business models with prospective strategies and TM structures, while – in essence for this dissertation – affirming the ubiquitous (strategic) relevance of TM.

This article extends the evidence of the *relevance of TM* (e.g., Sparrow *et al.*, 2014a; Collings *et al.*, 2017) as a business model/strategic component securing a sustainable organizational outlook (McDonnell *et al.*, 2017). Central research requests to scrutinize the link between TM and organizational strategy (Sparrow, Scullion, & Tarique, 2014c) within an international and cross-organizational context (e.g., Doh, 2015; Sparrow & Makram, 2015) – herein, European football – are followed. Furthermore, due to the sports context and concomitant strategy definitions, the scarce literature on sports-related strategy research is enlarged (Shilbury, 2012). To the best of my knowledge, no existing empirical study in sports-management and TM research analyzes business models for their prevalent TM structures and strategic outlook. In the words of Collings *et al.* (2017, p. 6), the practical relevance of TM is deemed to be "common point of departure for much research on TM (…)" – and hence has to be substantiated.[4]

1.4.2 [Article 2] Does Talent Management Create Organizational Value? Empirical Evidence from the Talent Pools of EPFCs

The second article investigates the outlined key limitation of the TM research field (e.g., McDonnell *et al.*, 2017): the postulated but not (adequately) evidenced *organizational value of TM* (e.g., Sparrow & Makram, 2015; Cascio & Boudreau, 2016). By using objective measures on TM effectiveness and a multidimensional definition of organizational value, i.e., differentiating between economic versus non-economic and current versus non-current value, methodological challenges are overcome (e.g., Collings *et al.*, 2017; Sparrow *et al.*, 2014b; Bethke-Langenegger *et al.*, 2011). The article's findings confirm the organizational value of

4 While such substantiation is important for TM literature in general, it is also deemed to be of high relevance for this dissertation scrutinizing TM in football. The first article is thus understood to build the foundation for further research on the intersection of (organizational) TM and football/sport, especially considering the advantages of using sport/the sports business as a labor market laboratory (cf., Kahn, 2000) for TM research.

TM: in terms of current value, the promotion of talents into pivotal positions generates use value but is at the expense of lower workforce experience at senior level; in a long-term perspective, positive reputational and financial organizational effects are evidenced.

These findings contribute substantially to the maturation of the TM literature by confirming its central tenet of generated value (e.g., McDonnell *et al.*, 2017; Collings *et al.*, 2017). It is further – to the best of my knowledge – the first article in TM literature to use objective TM performance measures and multidimensional organizational performance indicators in order to derive a comprehensive overview of the impact of TM on organizational performance.

1.4.3 [Article 3] The Impact of Personality Traits on Talents' Performance throughout Development Phases: Evidence from a Pivotal Talent Pool in Football

Building on the relevance and value of TM, the third article rounds off this dissertation by scrutinizing the drivers of talent performance within a pivotal talent pool (e.g., McDonnell et al., 2017). Specifically, talents' personality traits (compared inter development phases) and their impact on performance are analyzed (Bleidorn, 2015). I, thereby, differentiate between all versus star talents (e.g., Sparrow & Makram, 2015). Evidence is provided for a high level and moderate variance of traits inter talent development phases as well as their impact on regular (intra peer group) and superior (beyond peer group) performance. Intriguingly, this research article points out peculiarities of the pivotal talent pool, for example its intense competition, and hence underlines the importance of the contextualization of TM (e.g., Doh, 2015; Sparrow & Makram, 2015).

From an organizational perspective, provided that the individual performance is a mediator for organizational performance (e.g., Collings & Mellahi, 2009; Minbashian, 2017), addressing its antecedents contributes to the respective gap in TM literature (e.g., McDonnell *et al.*, 2017). My findings illustrate starting points to enhance the organizational effectiveness of pivotal talent pools. Understanding the individual talent remains a prerequisite in order to generate, and secure, TM value (e.g., Collings, 2017; McDonnell *et al.*, 2017).

I am the sole author of all research articles. However, valuable comments from Prof. Dr. Sascha L. Schmidt and Jun.-Prof. Dr. Dominik Schreyer were incorporated.

2. CORE BUSINESS MODELS OF EUROPEAN PROFESSIONAL FOOTBALL CLUBS:

THE RELEVANCE OF TALENT MANAGEMENT AS A COUNTERVAILING MEASURE IN THE CURRENT BUSINESS CONTEXT[5]

[ARTICLE 1]

5 Unpublished manuscript. [All derived conclusions are those of the author alone and should not be seen to reflect the views of the Union of European Football Associations.]

2.1 INTRODUCTION

The football landscape has developed significantly on and off the pitch in recent decades. Its cultural and social impact beyond the 90 minutes of game time is undisputed (e.g., Schmidt, Imoberdorf, & Ulrich, 2014a, 2014b; Hughson, 2016; European Commission [EC], 2018b). Its concomitant commercial exploitation, along with record high number of fans, has contributed to a 9.8% year-on-year revenue growth over the last 20 years and an all-time high market size of EUR 18.5 billion in the 2016 financial year [FY] (UEFA, 2018a).

Under the surface, and looking beyond the overall commercial success of the top leagues, however, European football and its clubs are faced with severe challenges, *inter alia*, significant financial polarization and the plurality of clubs operating in deficit. For instance, in FY2016, the top 12 revenue-generating clubs accounted for one third of the revenues of 711 European top-division clubs, and the 132 clubs from the wealthiest seven leagues for 81% respectively (UEFA, 2018a).[6] This ubiquitous financial divide – e.g., inter "global super clubs" (UEFA, 2017b, p. 81)[7], inter global super clubs and their domestic competitors (intra the top 5 leagues) or inter clubs from top- and non-top leagues (inter leagues) (UEFA, 2018a; Deloitte, 2018) – triggers a concentration of talent and sporting success (Szymanski & Késenne, 2004; Poli, Besson, & Ravenel, 2018; EC, 2018b), and hence jeopardizes fan demand due to a reduced uncertainty of outcome (Pawlowski, 2013). In the bet for sporting success, clubs overinvest in talent (Morrow, 2016) and risk their financial viability (Barros, 2006; Dimitropoulos, Leventis, & Dedoulis, 2016). In FY2016, 56% of clubs in the top 20 leagues, and 59% of clubs outside the top 20, reported an operating deficit (UEFA, 2018a).

While regulatory interventions have targeted historic market failures in the past – e.g., the implementation of UEFA's Financial Fair Play [FFP] addressing irrational financial spending (via investors) and record financial losses (i.e., EUR 1.7 billion in 2011) – the outlined erroneous status quo, however, makes both regulatory discussions as well as countervailing club business models and strategies indispensable.

6 The top 5 leagues, i.e., the English Premier League, German BL, Spanish La Liga, Italian Serie A and French Ligue 1, plus the Turkish Super League and Russian Premier League. This (common) classification is based on the aggregated revenues by top-tier leagues for FY2016 (UEFA, 2018a).

7 The term of "global super clubs" was introduced in the UEFA Benchmarking Report (UEFA, 2017b, p. 81), referring to the significant revenue and buying power of twelve elite clubs. This paper follows the introduced naming and refers to these clubs either as "global super clubs" or as "elite clubs".

Against this challenging external business context, EPFCs have to implement appropriate business models and strategic plans[8] in order to position themselves for competitive advantage under consideration of the complementary internal and external business context (Mintzberg, 1987; Franck, 2010). While this is key for clubs "to ensure competitive longevity" (Schmidt & Holzmayer, forthcoming), supporting strategy research in sport management overall, and on EPFCs' business models and strategies specifically, is scarce (Shilbury, 2012). This is notable given that off- and on-pitch success is interlinked (e.g., Dobson & Goddard, 2011), and driven by strategic management (Shilbury, 2012). Further considering the aggravating factors of frequent (financial) mismanagement (Dimitropoulos & Tsagkanos, 2012) and diverging levels of professionalism (Schmidt & Holzmayer, forthcoming), research strengthening the management of EPFCs is pivotal.

Accordingly, this research article analyzes the future prospects of clubs' business models. Based on a set of 110 elite and non-elite clubs, business models are scrutinized for (1) implemented core/sustainable club operations, i.e., the prevalence of effective youth development [YD] structures;[9] and (2) affiliated strategic plans. I thereby address two central questions: *How well positioned for the future are clubs under prevalent business models?* And: *how can prospective business models be strengthened?*

The contribution of this research article is fivefold: Firstly, the limited literature on sports-related strategy research is extended (e.g., Shilbury, 2012). Secondly, the narrow focus on elite clubs (e.g., Rohde & Breuer, 2016) is broadened to cover a heterogeneous club sample plus a range of core business models/strategies. Thirdly, concrete practical implications for clubs and stakeholders are drawn in order to strengthen both the regulatory framework and business models of EPFCs. Fourthly, and substantially for management literature, the emphasis on YD as a sustainable/core operation contributes to the field of TM research by outlining the relevance of TM in a cross-organizational and multi-national business context (e.g., Vaiman & Collings, 2013; Sparrow & Makram, 2015; Collings *et al.*, 2017). Fifthly, the empirical gap on interlinked TM and strategy research is addressed (e.g., Sparrow *et al.*, 2014b).

8 This article differentiates between the terms "business model" and "strategy" in accordance with the definitions of Casadesus-Masanell and Ricart (2010, p. 204f.): "strategy is a firm's contingent plan as to the business model it will use", while […] "a business model is a reflection of a firm's realized strategy."

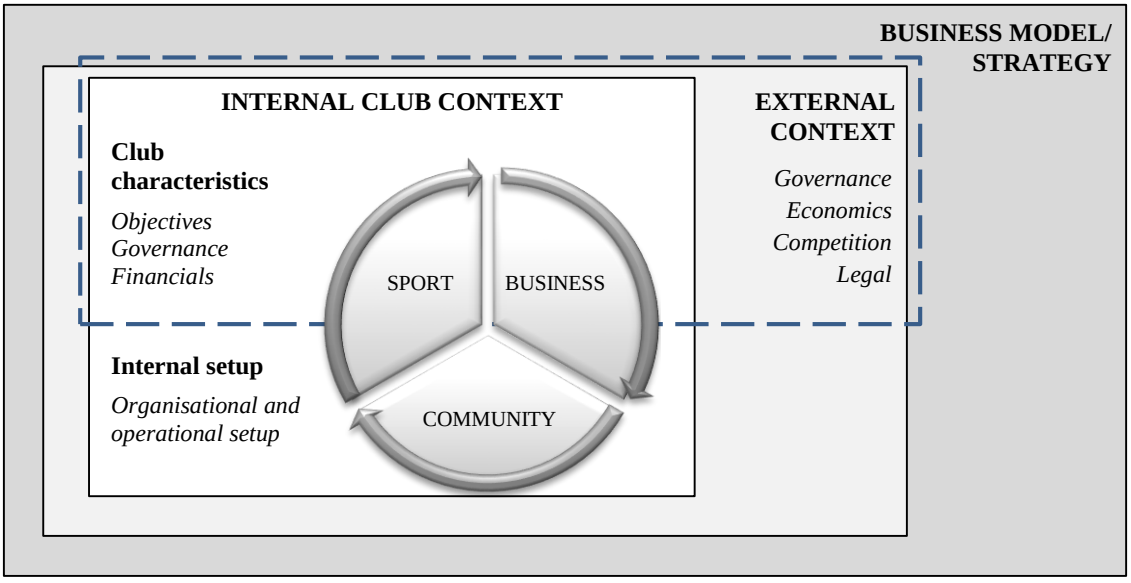
9 The terms "youth development" [YD] and "talent management"[TM] are used interchangeably.

The paper is organized as follows: Key aspects of the current internal and external business context are outlined in detail in the next section (2.2), with core business models and hypothesized affiliations to (effective) TM structures and strategic plans being presented subsequently (section 2.3). Following a description of the data and methods used (section 2.4), descriptive and bivariate results on the interdependencies of implemented business models, strategy components and TM operations are presented in section 2.5, with implications for clubs and stakeholders being discussed in section 2.6.

2.2 CONTEXTUALIZATION
[KEY ASPECTS OF EPFCs' BUSINESS CONTEXT]

EPFCs operate in a complex and highly competitive business context, defined by internal club characteristics, e.g., legal group structure, ultimate controlling party and financial situation, plus the external environment, e.g., governance structures, supporters and the regulatory framework. While mediating between internal and external contexts (Mintzberg, 1987), clubs' business models and strategies must be aligned accordingly (see Figure 2.I).

Figure 2.I: Club Business Context



Source: own illustration; based on the Club Management Guide of the ECA (2015)

2.2.1 Internal Business Context[10]

2.2.1.1 Club Objectives and Governance Structures[11]

EPFCs are predominantly characterized as utility maximizers, i.e., targeting sporting success under budget restrictions (Sloane, 1971; Franck, 2016), and thus allocating secondary importance to financial performance (Barros, 2006; Dimitropoulos, 2011; Dimitropoulos *et al.*, 2016). This is in particular presumed for the 37% of EPFCs with no controlling party, i.e., clubs that are either organized as associations or controlled by its association and ultimately members (UEFA, 2018a). The benefits of this governance model are, *inter alia*, the co-determination/voting rights of members along with the reduction of investor influence.[12] In contrast, the majority of EPFCs are privately owned firms with a controlling shareholder or listed corporations (of which 70% are governed by a domestic owner) (UEFA, 2018a). In such models, owners control the decision-making (Dimitropoulos, 2011) and pursue profit-generating motives (Garcia-del-Barrio & Szymanski, 2009; Leach & Szymanski, 2015). Complementarily, in the special case of multiple-club investors[13] (i.e.,

10 Due to this article's focus on business models/strategies, the operational setup of EPFCs is not outlined in detail, although the implications of the results for the internal setup of EPFCs are indicated in section 2.6. See Schmidt (2017b) for a comprehensive overview of clubs' internal subdivisions and operations.

11 Details on club governance from the UEFA Benchmarking Report are limited to 256 EPFCs (UEFA, 2018a).

12 As an example: in the German BL, member's rights are secured by league association rules (specifically, the so-called 50+1 rule), whereby associations/members of German professional football clubs must maintain the majority of voting rights in order to prevent any single entity/shareholder from gaining control.

13 The term "multiple-club investors" is used deliberately (as opposed to the commonly used term "multiple-club ownership") since decisive influence is sufficient to determine club operations.

Within the current football landscape, three types of multiple-club investors are prevalent (UEFA, 2018a): (1) Private persons with control and/or decisive influence over more than one club; (2) (Related) entity(ies) with control and/or decisive influence over more than one club (e.g., City Football Group or Traffic Sports); (3) Clubs with control and/or decisive influence over another club (e.g., Atletico Madrid/RC Lens or AS Monaco/Cercle Bruges).

Affiliated is the risk of multiple-club investors undermining the integrity of domestic and international competitions. This risk is addressed at international level by the admission criteria for the UEFA Europa League and the UEFA Champions League restricting the participation of clubs owned and/or decisively influenced by the same entity (UEFA, 2017e). For example, prior to the UCL/UEL season 2017/18, UEFA and its competent decision-making body – the Club Financial Control Body [CFCB] – faced the question of whether a legal entity, i.e., the Red Bull GmbH, was able to exercise decisive influence over more than one club, i.e., RB Leipzig and FC Salzburg. Following detailed UEFA compliance activities on the legal group structure, statutory organs (e.g., competence and composition), professional football entity, simultaneous involvement, and contractual arrangements (CFCB Investigatory Chamber [IC], 2018), the CFCB IC referred the case to the Adjudicatory Chamber [AC] advising the refusal of RB Leipzig's admission due to Red Bull having "decisive influence" over both clubs (CFCB AC, 2017). However, due to subsequent changes at both

private persons, entities or even EPFCs), sporting (and financial targets) are allegedly key for the portfolio's top-flight club, while other controlled/decisively influenced clubs could be operationalized as secondary "farm clubs" with subordinate targets.[14]

Recap on club objectives/governance structure: The governance model and concomitant controlling party(ies) determine clubs' objectives, e.g., the trade-off between winning and maximizing profit. Under restrictions due to, *inter alia,* stakeholder interests, club administrations strive to maximize sporting performance.

2.2.1.2 Club Finances

Clubs operate rationally in financial terms if their relevant income streams,[15] i.e., generated primarily from matchday receipts, broadcasting rights, advertising and sponsorship rights, merchandising and prize money, cover their expenses, i.e., driven by personnel and player trading costs (Franck, 2015; UEFA Club Licensing and Financial Fair Play Regulations [CLFFPR], 2015). However, the multitude of non-profitable clubs, fortified by financial and sporting polarization, calls into question the viability of spending patterns (Dietl, Franck, & Lang, 2008; Franck, 2010; Solberg & Haugen, 2010).

Club revenues: The magnitude of various revenue streams varies between elite clubs, other top-clubs and clubs from non-top leagues, leading to an apparent divergence in club revenues UEFA, 2018a): for instance, 33% of all European top-division football revenues are generated

clubs addressing the objections raised, the CFCB AC concluded that – as of the date of the decision in June 2017 – Red Bull GmbH had no decisive influence over FC Salzburg. Consequently, both clubs were admitted to participate in the UCL/UEL 2017/18 (CFCB AC, 2017).

14 The term "farm club" refers to clubs that are (directly or indirectly) owned and/or decisively influenced by another EPFC in order to provide e.g., training and playing time to affiliated young players. Such arrangements are criticized for increasing player hoarding at the cost of smaller clubs, national associations and leagues. In response to potential integrity issues in domestic competitions, various domestic leagues (e.g., the English Premier League, the Spanish La Liga and the German BL) have implemented restrictions in this regard (Grell, 2017).

15 Following Art. 58 and Annex X par. A of the UEFA CLFFPR (2015), relevant income is equivalent to the sum of revenues from gate receipts, sponsorship and advertising, broadcasting rights, commercial activities, UEFA solidarity and prize money, other operating income, profit on disposal of player registrations (and/or income from disposal of player registrations), excess proceeds on disposal of tangible fixed assets and finance income and foreign exchange result. Conversely, contributions from related parties are not relevant income.

by the top 12 elite clubs, driven by broadcasting plus commercial/sponsorship revenues (i.e., 71% of the increase in gate, commercial/sponsorship and other revenues since 2010 went to the top 12 elite clubs). In a league comparison, the top 5 leagues generate 74% (EUR 13.6 billion) – including 26% (EUR 4.9 billion) by the English Premier League [EPL] at the top – of the overall European football market (UEFA, 2018a).

Revenues of elite clubs: Disaggregated at a club-by-club level for FY2016 (UEFA, 2018a), three elite clubs have generated income above EUR 600 million, i.e., Manchester United (ENG), FC Barcelona (ESP) and Real Madrid (ESP), another three above EUR 500 million, i.e., FC Bayern München (GER), Paris Saint-Germain FC (FRA) and Manchester City FC (ENG),[16] another three above EUR 400 million, i.e., Arsenal FC (ENG), Chelsea FC (ENG), Liverpool FC (ENG), and one, Juventus FC (ITA), above EUR 300 million. Within the race to stay (internationally) competitive, elite clubs have made a systematic shift towards a diversified and internationalized commercial portfolio (Schmidt & Holzmayer, forthcoming), i.e., increasing and monetizing their worldwide fan-base (Andrews, 2015; Deloitte, 2018; UEFA, 2018a). Sponsorship and commercial revenues have subsequently reached a high level of EUR 6.1 billion in FY2016, driven by the elite clubs. In terms of financial disparity inter elite clubs, teams from the EPL dominate the financial rankings, particularly due to high income from domestic and international broadcasting and commercial rights (UEFA, 2018a). An even larger divide is limited by other top leagues due to their more balanced distribution models for domestic broadcasting rights revenue (UEFA, 2018a).[17] Overall, the financial and

16 Financials reported in the UEFA Benchmarking Reports (UEFA, 2017b, 2018a) are based on club submissions to UEFA, i.e., reflecting the audited financial results of the reporting entities. UEFA points out that reported financials do not reflect potential adjustments made under the FFP monitoring.

First example: Paris Saint-Germain was found to be in breach of the break-even rule in 2014 following fair-value adjustments, i.e., the "contract between PSG and the Qatar Tourism Authority has been carefully considered and a fair value, significantly below that submitted by the club, has been assigned" (CFCB IC, 2014c, p. 1). A second investigation against the club concerning FFP was opened by the CFCB IC in September 2017 (UEFA, 2017c).

Second example: Manchester City was found to be in breach of the break-even rule in 2014 following the investigation of commercial partnerships and its reporting perimeter: "it will not seek to improve the financial terms of two second tier commercial partnerships" and "revenues from the sale of assets within their group structure will not be included in future break-even calculations" (CFCB IC, 2014b, p. 1).

17 Comparison of the domestic broadcasting revenue distribution systems, i.e., high club to median club domestic broadcasting revenue (UEFA, 2018a): England 1.3; Germany 1.9; France 2.1; Italy 4.3; Spain 8.4. As an example, the top revenue-generating club Manchester United would receive an additional EUR 216 million under the Spanish distribution system.

sporting competition between elite clubs at international level is at the expense of increased polarization between the elite and their domestic competitors (e.g., Poli *et al.*, 2018).

Revenues of clubs from top 5 leagues: In contrast with elite club revenues of up to EUR 600 million, the average revenue of its competitors within the top 5 leagues amount to circa EUR 107 million (UEFA, 2018a), i.e., EUR 156 million in the EPL, EUR 124 million in the German BL, EUR 100 million in the Spanish La Liga, EUR 87 million in the Italian Serie A and EUR 50 million in the French Ligue 1.[18] The primary revenue drivers are sponsorship/ commercial, broadcasting and gate receipts (UEFA, 2018a) – however, often affiliated with a lower degree of commercial diversification (Schmidt & Holzmayer, forthcoming). The financial divide and concentration between elite and other top clubs is evident, *inter alia*, in sponsorship (i.e., 56% of the European annual sponsorship/commercial growth is generated by the top 12 financial clubs) and gate receipts (i.e., significantly higher for elite clubs compared with their domestic competitors as a result of both higher stadium capacities and higher yields per attendee) (UEFA, 2018a).

Revenues of clubs outside the top leagues: Non-top clubs operate with significantly lower financial means. Clubs in eight leagues operate with average revenues between EUR 10 and 20 million, in five leagues between EUR 5 and 10 million and in 32(!) leagues with average revenues below EUR 10 million (UEFA, 2017b, 2018a) – essentially limited by market externalities. The revenue structure in the top 6 to 10 leagues[19] is somewhat comparable to that of the top 5 leagues, albeit with a higher importance on transfer proceeds (UEFA, 2018a). However, clubs outside the top 10 leagues operate, in general, on the basis of gate receipts and sponsorship revenues, supplemented by donations (UEFA, 2018a). Considering that revenues are a significant limitation (or catalyst) for the organizational setup, its level of professionalization and ultimately sporting performance (e.g., Szymanski & Kuypers, 1999), such a financial divide constitutes a significant threat and burden.[20]

18 Average revenues per top 5 league (including elite clubs) (UEFA, 2018a): EPL (EUR 244 million), German BL (EUR 150 million), Spanish La Liga (EUR 126 million), Italian Serie A (EUR 190 million) and French Ligue 1 (EUR 74 million)

19 In accordance with the industry-common classification based on the aggregated revenues by top-tier leagues (UEFA, 2017b, 2018a): Turkish Super League, Russian Premier League, Dutch Eredivisie, Portuguese Primeira Liga and Belgium Super League.

20 See Appendix Figure A2.II and A2.III for further details on the outlined club revenues and its divergence between elite and non-elite clubs.

Spending patterns: The main expense drivers are personnel expenses and player registrations amortization costs (UEFA, 2018a). Personnel costs, for instance, accounted for 62.5% of club revenues in FY2016, with a compound annual growth rate of 10.3% over the last two decades (UEFA, 2017b, 2018a). Out of the top leagues in Europe, 17 indicate an average club wage to revenue ratio of more than 70%, a ratio that is declared by UEFA as a risk indicator (UEFA CLFFPR, 2015), for example in Russia, Turkey, Portugal and Greece. An average of 71% of overall employee benefit expenses is thereof allocated to players (UEFA, 2018a). The second cost driver, transfer spending, totaled EUR 5.4 billion in FY2016 in Europe. Consequently, the inflation of transfer prices is concomitant with higher operational risks for buying clubs/net spenders (i.e., 33% of all EPFCs in FY2016 (UEFA, 2018a)).

Recap on club finances: EPFCs are faced with significant financial polarization inter and intra leagues (UEFA, 2018a; Deloitte, 2018). In an attempt to limit the sporting consequences and to secure competitiveness, the majority of clubs overspend on talent (e.g., Dietl *et al.*, 2012; Morrow, 2016). Additional exogenous factors, for example competition formats and potential prize money, create further incentives to speculate on sporting success (Dietl & Franck, 2007; Franck, 2010). As a consequence, the majority of EPFCs are not sustainable: 56% of clubs in the top 20 leagues and 59% of clubs outside the top 20 leagues have reported operating deficits in FY2016 (UEFA, 2018a).[21] These deficits need to be covered by transfer profits and/or external financiers.[22] Overall, EPFCs run the risk of entering a downward spiral and suffering long-term consequences of, *inter alia*, continuous cash-flow problems, concomitant factoring of future income, high debt levels (e.g., Dimitropoulos *et al.*, 2016) and, as the ultimate stage, insolvency (Szymanski, 2012; Morrow, 2015).

2.2.2 External Business Context

2.2.2.1 Football Governance/European Stakeholders

Within the association-structured football pyramid, clubs are (directly or indirectly) members of their respective national football associations, i.e., associations governing a system of

21 Operating profitability, i.e., profitability before transfer, non-operating, financing, tax and divesting activities. See Appendix Figure A2.IV for details on the operating profitability of clubs within the top 20 leagues.

22 Subsidies from related parties are thereby regulated by the UEFA CLFFPR (2015).

domestic leagues, which are in turn members of and thus governed by the continental body, in this case UEFA.[23] Leagues, i.e., a gathering of legally independent clubs in a competition, are organized primarily according to the cooperative model (Dietl *et al.*, 2009).[24] The benefits of this model are arguably increased independence of EPFCs, leading to autonomous decision-making, for instance, in the attempt to professionalize league structures and increase their commercial footprint (Dietl *et al.*, 2012; Huwer, 2013).

On a supranational level, club representation is strengthened by the ECA, an association which currently represents 220 clubs, i.e., 109 Ordinary Members (with voting rights) and 121 Associated Members (ECA, 2018a).[25] Its principles are defined by increasing sporting quality and competitive balance, while maximizing commercial success (ECA, 2016b).[26] Under its latest memorandum of understanding with UEFA (valid until 2022), the ECA secured further rights, e.g., rights to full representation on the UEFA Executive Committee plus co-determination rights on distribution mechanisms for UEFA prize money (UEFA & ECA, 2015). The latest changes to the UEFA club competitions for the cycle 2018-21, i.e., granting more direct UCL qualification spots to the best-ranked leagues, the amended distribution of prize money plus the inauguration of a joint company representing UEFA and the ECA to elaborate the strategic direction of European club competitions (UEFA, 2016a; ECA, 2016a),[27] have been heavily criticized as manifesting the supremacy of top-flight clubs (T.A.W. (The Economist), 2016).

23 In some European FAs, clubs are only indirect members of the national FA, i.e., member of UEFA, while their reporting entities (often limited companies) are direct members of the league association, which is in turn a member of the national FA. For example: first and second-division clubs in Germany are members of the league association Die Liga – Fussballverband e.V., i.e., the association who, as per its statutes, governs the first and second-division clubs and is in turn a member of the German FA.

24 Historically, clubs were predominantly contractually governed. In several European leagues, including the top 5 leagues, this model was substituted by the implementation of a cooperative model. Competition rights were transferred from the national FA to newly founded league associations (Dietl *et al.*, 2009).

25 Due to the focus on clubs, this section covers primarily the ECA. Further advocacy groups, such as the Association of European Professional Football Leagues, i.e., governing and representing 32 European professional football leagues, and the International Federation of Professional Footballers, i.e., representing 65,000 professional footballers, are not addressed specifically.

26 Such principals seem diametrical, e.g., competitive balance versus maximizing commercial returns (e.g., Dietl *et al.*, 2009).

27 In 2013 as well as 2016, several global super clubs, governed by the ECA, are reported to have considered the option of forming a super league and withdrawing from UEFA club competitions for commercial reasons (e.g., Ashelm, 2016). The predictable consequence would have been an income decline from the

Recap on football governance structures: Top clubs have significantly strengthened their positions at domestic and European level (via the ECA). Recent developments, however, indicate drawbacks and question the bargaining power of mid-sized and smaller clubs (illustrating their need to form a joint-voice in order to exert influence).

2.2.2.2 Competitions

Clubs compete in a promotion and relegation system within domestic leagues, with the opportunity to qualify via domestic league and cup competitions for the supranational annual UEFA club competitions, i.e., the Champions League [UCL][28] and Europa League [UEL].[29]

In economic terms, leagues are a commercial product with peculiarities (Dietl *et al.*, 2009): even though clubs aim for the best individual sporting performance, both leagues and clubs typically seek a balanced competition in order to maximize league revenues. A sporting monopoly is likely to reduce the financial returns of leagues and consequently clubs (Rottenberg, 1956; Neale, 1964). Conversely, an entirely balanced league is in theory not of interest either, since successful large-market teams generate a higher marginal return compared with smaller teams (Dietl *et al.*, 2009). Academic evidence of the impact of outcome uncertainty on interest/demand is, however, ambiguous (e.g., Schreyer & Däuper, 2018; Schreyer, Schmidt, & Torgler, 2016a, 2016b, 2017; Pawlowski & Nalbantis, 2015; Pawlowski, Nalbantis, & Coates, 2018).

In an attempt by several mid-sized and smaller leagues to increase championship uncertainty, domestic competitions formats have been adapted in recent years, leading to different sizes and formats across Europe (UEFA, 2017b). Overall, European top-division leagues consist

commercialization of UEFA club competitions, with a consequent drop in solidarity payments to other European clubs. This was averted by the aforementioned agreement between UEFA and the ECA.

28 The UCL is the flagship European club competition. National club champions and, depending on the association club coefficient rankings, one or more runners-up can qualify. From season 2018/19 onwards, the top four clubs from the top-ranked national associations will receive guaranteed places.

29 The UEL is the second European club competition, in which domestic cup winners and the best league runners-up (if not participating in the UCL, including its qualification rounds) participate.

of six to 20 clubs. Thereby, 17 leagues[30] follow the basic format of each team playing its opponents twice a year in a league system, while 25 leagues[31] require more than two games between clubs. The remaining 17 leagues[32] play in a split competition format, in which clubs are divided during the season in order to compete within groups against relegation or for promotion/the championship title respectively. Academic results confirm the positive impact on attendance had by those format changes that lead to an increased number of title contenders (Pawlowski & Nalbantis, 2015).

Recap/status quo on competitions: Leagues face a trade-off between competitive balance and the (international) competitiveness of their commercial drivers (top clubs). Amendments of competition formats/competitions – e.g., regional and supranational leagues – are under scrutiny.

2.2.2.3 Football Supporter Relations

Club supporters are (proclaimed) key stakeholders of EPFCs. The extent to which supporters can actively influence the decision-making of EPFCs is, however, limited to the case of association-controlled professional football entities. Along with increasing criticism and negative perceptions of their commercial exploitation (Kennedy & Kennedy, 2012), the traditional supporter model, i.e., fans having a long-term, intense and emotional link to their club while providing continuous solidarity and support (Kennedy, 2013), is transitioning to a more distant consumer-oriented model, i.e., with a cosmopolitan identity providing less solidarity (Giulianotti, 2002; c.f., Schreyer & Däuper, 2018). As a result, 62% of European leagues faced decreasing attendance rates in season 2016/17 (UEFA, 2018a), with non-attending season ticket holders further aggravating the negative trend. Schreyer and Däuper (2018) identify for the German BL that "no-shows […] are the rule (rather than the exception)

30 Leagues in the following countries (UEFA, 2017b): Belarus, Czech Republic, England, France, Germany, Greece, Island, Italy, Luxemburg, Netherlands, Norway, Portugal, Russia, Spain, Sweden, Turkey, Ukraine.

31 Leagues in the following countries (UEFA, 2017b): Albania, Austria, Azerbaijan, Croatia, Estonia, Finland, Faroe Islands, Gibraltar, Hungary, Ireland, Kosovo, Latvia, Moldova, Republic of Macedonia, Malta, Montenegro, Switzerland, Slovenia, Slovakia.

32 Leagues in the following countries (UEFA, 2017b): Andorra, Belgium, Bosnia and Herzegovina, Bulgaria, Cyprus, Denmark, Israel, Georgia, Kazakhstan, Lithuania, Northern Ireland, Poland, Romania, San Marino, Serbia, Scotland, Wales.

in German stadiums" (p. 5). As counterbalancing measures, digitalization and the changed consumer behavior of digital natives (PwC, 2014b) bear opportunities to increase fan engagement independent of physical presence (Schmidt & Holzmayer, forthcoming).

Recap/status quo on supporter relations: EPFCs are at risk of losing their traditional supporters due to extensive commercial exploitation despite industry's record revenues. Commercially, large-market clubs, such as the "global super clubs" (UEFA, 2017b, p. 81), are allegedly able to substitute supporters with (cosmopolitan) consumers. The significant (non-commercial) importance of traditional supporters, however, necessitates clubs to re-balance supporters' versus clubs' commercial interests (Chadwick & Hamil, 2010).

2.2.2.4 Regulatory Framework

EPFCs are subject to domestic and international law, along with specific sports law, i.e., the cross-sectional laws that apply to clubs, athletes and stakeholders, complemented by sports-specific legislation and case law (Gardiner *et al.*, 2012). In terms of sustainable business strategies, the following sporting plus financial legislative areas are of specific importance:

Restrictions on player management: Squad restrictions for domestic/international competitions are implemented in 28 European leagues, e.g., 16 leagues with squad limits of 25 players (UEFA, 2017b). Within European competitions, such A-Lists[33] can be further reduced, while the B-List contains youth players that can be registered at short notice. Moreover, loan restrictions for domestic competitions are implemented in 16 top-division leagues, while the top 5 leagues are unrestricted (UEFA, 2017b).[34] Both squad and loan restrictions aim to limit player hoarding (UEFA, 2017b).

33 Acc. to Art. 43(2) of the Regulations of the UEFA Champions League and Art. 42(2) of the Regulations of the UEFA Europa League 2015-18 Cycle (UEFA, 2017e): "No club may have more than 25 players on List A during the season, two of whom must be goalkeepers. As a minimum, eight places are reserved exclusively for "locally trained players" and no club may have more than four "association-trained players" listed on these eight places on List A. (…)"; and Art. 43(6)/42(6): "If a club has fewer than eight locally trained players in its squad, then the maximum number of players on List A is reduced accordingly."

34 Leagues arguably have an interest in limiting loans on domestic level only, *inter alia*, for reasons of competitive balance. To the extent that none of the top leagues have implemented restrictions on squads and/or loans, player hoarding and farm clubs are not restricted, constituting an integrity and competitive balance problem on European level (EC, 2018b).

Domestic Club Licensing and Financial Fair Play/financial measures: EPFCs have to comply with domestic club licensing [CL] regulations in 51 out of UEFA's 55 associations[35] and the continental UEFA CL in order to be eligible to play in the respective national or supranational competitions for which the clubs qualify on sporting merit. The CL criteria[36] – i.e., defining minimum sporting, personnel, infrastructure, administrative, legal and financial requirements – are deemed as "the focal point for national associations in their strategic plans for club development and improved governance" (Traverso, UEFA (2015, p. 5)). In an extension of the minimum-standard-based CL, some of the top 5 leagues have implemented further measures, such as, (1) domestic budget constraints, e.g., the salary cost management of the EPL (Morrow, 2016), the FFP of the Italian Football Federation/Federazione Italiana Giuoco Calcio (FICG, 2016) and the cost controls of the Spanish La Liga (La Liga, 2015), as well as (2) ownership controls, e.g. the English FA's/EPL's Owners' and Directors' Test (English FA, 2017). These interventions address financial concerns (e.g., financial sustainability) and overcome limitations of pure licensing and liquidity-based systems.

UEFA FFP: Clubs that have both qualified for a UEFA competition on sporting merit and received the UEFA license become further subject to the UEFA FFP monitoring. The main criteria of UEFA FFP are the "overdue payables" criteria (implemented in season 2010/11), i.e., urging clubs to pay their obligations on time, and the "break-even" criteria (implemented in 2013/14), i.e., requiring clubs to operate within their financial means, allowing an aggregated deficit of EUR 5 million, with a maximum acceptable deviation of EUR 30 million if the divergence is covered by contributions from equity participants and/or related parties.

35 According to the UEFA CL 10 Years Report (2015), 51 out of 54 national associations had implemented a domestic CL system by 2015. On 3 May 2016, Kosovo became the 55th full member of UEFA (UEFA, 2016b). All member associations further have to apply a club licensing system for the UEFA licence.

36 All clubs that qualify for an UEFA club competition on sporting merit require a license to compete. This license is awarded by their respective national associations based on the fulfilment of minimum sporting, personnel/administrative, infrastructural, legal and financial requirements. UEFA CL aims "a) to further promote and continuously improve the standard of all aspects of football in Europe and to give continued priority to the training and care of young players in every club; b) to ensure that clubs have an adequate level of management and organization; c) to adapt clubs' sporting infrastructure to provide players, spectators and media representatives with suitable, well-equipped and safe facilities; d) to protect the integrity and smooth running of the UEFA club competitions; e) to allow the development of benchmarking for clubs in financial, sporting, legal, personnel, administrative and infrastructure-related criteria throughout Europe" (UEFA CLFFPR, 2015, p. 2). Approximately 1,500 clubs undergo club licensing annually in Europe (UEFA, 2015).

This regulatory intervention is aimed predominantly to increase the financial sustainability of European club football, while being criticized for manifesting the club hierarchy (Birkhäuser, Kaserer, & Urban, 2017; Peeters & Szymanski, 2014; Vöpel, 2011).[37] In contrast to the latter, investments by the club owner/shareholders are itself not limited by UEFA FFP, but its use guided to long-term and sustainable re-investments, e.g., on YD and infrastructure (Franck, 2016). Furthermore, under the so-called voluntary agreements between an EPFC and the CFCB IC, clubs can (moderately) overspend in short-term with agreed financial targets ensuring break-even compliance within four years (cf., Annex XII, UEFA CLFFPR, 2015).[38] Non-compliance with FFP has been sanctioned by the CFCB, for instance, with exclusion from European competitions or financial and sporting limitations (e.g., limit on player trading, employee benefit expenses and/or amortization charges for player registrations) under so-called settlement agreements.[39]

Consequently, the UEFA CLFFPR (2015) indeed require EPFCs to implement a cost-rational business approach, strategic planning and improved corporate governance (EC, 2018b, 2018a). In fact, the implementation of FFP – i.e., verified by detailed compliance activities

37 The formalized objectives are: "a) to improve the economic and financial capability of the clubs, increasing their transparency and credibility; b) to place the necessary importance on the protection of creditors and to ensure that clubs settle their liabilities with employees, social/tax authorities and other clubs punctually; c) to introduce more discipline and rationality in club football finances; d) to encourage clubs to operate on the basis of their own revenues; e) to encourage responsible spending for the long-term benefit of football; f) to protect the long-term viability and sustainability of European club football" (UEFA CLFFPR, 2015, p. 2).

38 Under restrictive preconditions, an EPFC can apply for a voluntary agreement with the CFCB IC. Such agreement covers, for instance, "a structured set of obligations which are individually tailored to the situation of the club, break-even targets defined as annual and aggregate break-even results for each reporting period covered by the agreement […]" (UEFA CLFFPR, 2015, p. 94). Essentially, future break-even deficits are to be covered in full by investor contributions. This enables a (secured) overspending in short-term (e.g., on personnel and transfer costs (i.e. break-even relevant costs)), while financial targets secure clubs' financial sustainability/break-even compliance within four years. Although being considered as important measure to allow investments and facilitate competition (EC, 2018b), respective preconditions for a voluntary agreement have not been fulfilled by any club until now. Latest applicant, AC Milan, was refused the voluntary agreement in December 2017 due to insufficient loan-refinancing and financial guarantees (CFCB IC, 2017).

39 Settlement agreements aim to "ensure that clubs in breach of the break-even requirement become break-even compliant within a certain timeframe, and no more than three years after concluding the settlement agreement" (CFCB IC, 2018, p. 38). These agreements are public and cover: (1) operational/financial measures, e.g., targets on annual break-even results plus limits on personnel and player registration costs; (2) fines (i.e., money re-allocated to other UEL/UCL participants); (3) sporting measures, e.g., limitation on UEL/UCL squads plus a limit on transfer spending. Clubs under settlement agreements are, regardless of whether or not they qualify for UEL or UCL, subject to further monitoring and detailed compliance activities (CFCB IC, 2015, 2018). The Court of Arbitration for Sport [CAS] has confirmed that settlement agreements guide clubs to be break-even compliance (CAS, 2016).

and on-site audits carried out by the UEFA Administration in collaboration with independent auditors (CFCB IC, 2018)[40] – has increased the financial sustainability of EPFCs (UEFA, 2017b, 2018a; CFCB IC, 2018; EC, 2018b).[41]

Recap/status quo on the regulatory framework: EPFCs have to operate within the existing legal framework. Thereby, CLFFP guides clubs to a high standard of professionalization and cost rationality, and functions as a regulatory tool to control club finances and investors in order to secure the sustainability and integrity of both clubs and competitions.

2.2.3 Overall Recap on the Club Business Context

Concluding on the contextual status quo, the overall financial integrity of the European football market is to be addressed (Andrews & Harrington, 2016).[42] While further regulatory interventions are under discussion between stakeholders to target the financial polarization and consequent market failures (UEFA, 2018b, 2018c; EC, 2018a), such measures are seen as controversial (e.g., Peeters & Szymanski, 2014) and difficult to implement due to the bargaining power of non-beneficiaries. Consequently, EPFCs are challenged to respond to the financial and resulting sporting disparity (UEFA, 2018a) within their predefined context – i.e., underlining the importance of a sustainable business model and promising strategy.

40 UEFA outlines its compliance activities in CLFFP in the biannual CFCB IC Bulletin (CFCB IC, 2014a, 2015, 2018). The implementation of CLFFP is overseen by the CFCB. As part of the compliance activities, 30 compliance audits at clubs' premises were carried out by UEFA in collaboration with independent auditors in the monitoring periods 2015/16 and 2016/17, e.g., at Arsenal FC, FC Porto, Fenerbahce SK, Internazionale Milano, Manchester City FC, Paris Saint Germain and VfL Wolfsburg.

41 *Inter alia*: consecutive reduction of overdue payables and bottom-line losses, plus the concomitant positive evolution of operating profitability (see Appendix Figure A2.V) (UEFA, 2018a; CFCB IC, 2015, 2018).

The effectiveness of UEFA FFP was, nevertheless, called into question following the significant increase in (gross) transfer prices and spending in recent transfer windows (Flanagan, 2017). Conversely, under scrutiny of its objectives and measures, its constitution as a soft-budget constraint (Pieper, 2017) and the *ex post* approach (i.e., monitoring based on audited financial statements), FFP is not conceptualized to restrict absolute spending, but to ensure that such relevant costs are covered by relevant income (UEFA CLFFPR, 2015; CFCB IC, 2018). Side-effects, e.g. addressing competitive balance, were not established (EC, 2018b).

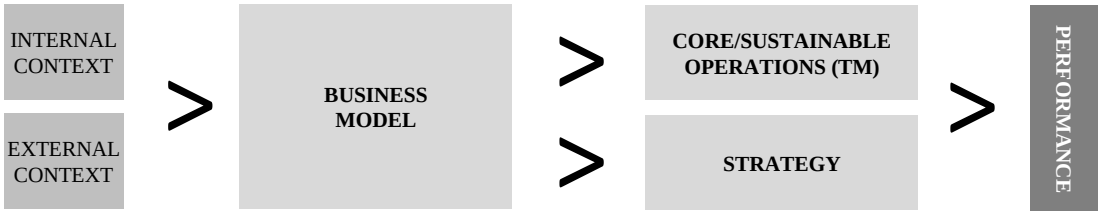
42 Andrews and Harrington (2016) define financial integrity in five pillars (p. 5): "1. Financial Transparency and Literacy: producing and publishing financial information; 2. Financial Sustainability: having the finances to generate value over time; 3. Fiscal Responsibility: meeting obligations to pay taxes and social payments; 4. Financial Concentration: distributing financial resources in ways that promote competition; 5. Social Responsibility and Moral Reputation: being socially and morally reputable."

2.3 EPFCs' BUSINESS MODELS AND (HYPOTHESIZED) ASSOCIATIONS WITH EFFECTIVE TM STRUCTURES AND STRATEGIC PLANS

Maximizing sporting success under the restrictions and opportunities of the internal and external business context is the core task for club management. While the context pre-defines the business model to a certain extent (Mintzberg, 1987; ECA, 2015), a club is operating sustainably when economic prosperity serves sporting performance (Huwer, 2013), i.e., the club finances its relevant expenses using relevant income without overinvesting in the bet for sporting success (Franck, 2010).

Considering the challenging industry context, sustainable business models with promising future prospects, i.e., providing growth opportunities, are imperative to secure clubs' competitiveness and long-term viability. Resultant central questions are: *How well positioned for the future are clubs under prevalent business models?* And: *How can prospective business models be strengthened?* These questions are operationalized by the association of distinct business models with (1) the prevalence of core/sustainable club operations, i.e., effective YD structures, and (2) the affiliated strategic plans (see Figure 2.II). The first association thereby addresses YD as an integral part of EPFCs' activities (ECA, 2012) in order to secure its football operations. In the case of efficient YD structures, the substance of operation is promising and the club well positioned for the future (ECA, 2012, 2015). The second association targets the affiliated strategies in respective business models, the strategy being the "firm's contingent plan as to the business model it will use"(Casadesus-Masanell & Ricart, 2010, p. 203). The latter provides the starting point for (suggestions on) improvement levers, with an emphasis on YD as a sustainable strategic component with concomitant sporting and financial growth potential.

Figure 2.II: Focus on Business Models and Core/Sustainable Operations plus Strategies



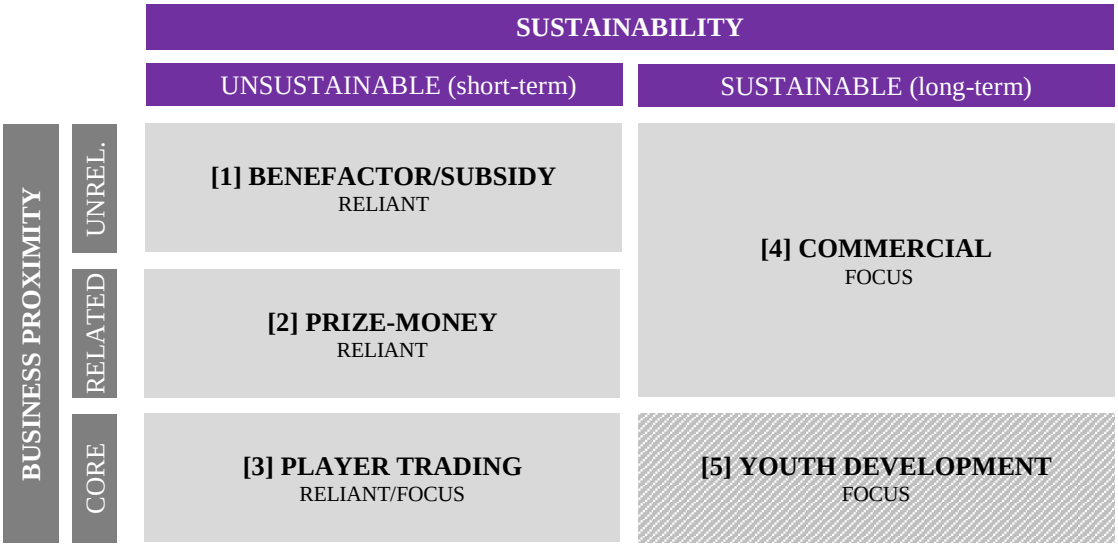
Source: own illustration

Business Models/Strategy Components[43]

In accordance with the ECA Club Management Guide (2015), the following core business models/strategies – all aligned to main economic drivers of a club – can be generalized: business models/strategies [1] reliant on benefactors/subsidies, [2] reliant on prize money, [3] focusing on player trading, [4] focusing on commercial activities, and [5] focusing on YD.

In advance of the subsequent detailed presentation of the respective business models (*sections 2.3.1 to 2.3.6*) and building upon diversification and sports management theory (e.g., Rumelt, 1982; Villalonga & McGahan, 2005; ECA, 2015), the business models and strategy components can be categorized by two dimensions: firstly, *business proximity*, i.e., *core, related or unrelated*; and secondly, *sustainability*, i.e., *unsustainable (short-term) vs. sustainable (long-term)*, as follows (see Figure 2.III):

Figure 2.III: Categorization of Business Models / Strategy Components



Source: own illustration; based on the ECA Club Management Guide (2015)

43 As previously outlined, this paper differentiates between the terms "business model" and "strategy", i.e., the realized strategy under the contextual status quo versus the contingent plan (Casadesus-Masanell & Ricart, 2010). The ECA Club Management Guide (ECA, 2015) refers to "strategy models" that are based on economic drivers. Despite this imprecise naming and theoretical differentiation, I agree that the outlined economic drivers can be both current (i.e., business model) or prospective (i.e., strategic) economic drivers.

2.3.1 Business Model Reliant on Benefactors/Subsidies

Clubs with benefactor/subsidy-reliant business models operate with soft budget constraints (Kornai, 1980; Nielsen & Storm, 2017), i.e., potential deficits – commonly due to commercial disadvantages of national/regional markets along with overspending on talent in the bet for sporting success (Dietl *et al.*, 2008; Solberg & Haugen, 2010) – are covered *ex pos*t by "supporting organizations" (Kornai, Maskin, & Roland, 2003, p. 1097). This can be established in various forms (Kornai, 1986; Nielsen & Storm, 2017): via soft pricing (e.g., reduced stadium or facility rental cost), soft taxation (e.g., tax deferrals, exemptions or amnesties), soft subsidies (e.g., sponsorship above fair value), soft credits (e.g., interest expenses below fair value or non-enforcement of repayments), soft investments (e.g., payments for infrastructure construction), or soft accounting (e.g., creative accounting). Benefactors, such as state governments, owners, donators or other related parties, consequently increase club's bailout expectations of clubs (Franck, 2016). Benefactor motives range from personal interest (e.g., striving for authority or prestige) to more altruistic drivers (e.g., supporting the local region and clubs) (Dimitropoulos *et al.*, 2016). This business model is problematic if the clubs rely *ex ante* on subsidies in case of financial difficulties (Nielsen & Storm, 2017). Moreover, under the UEFA CLFFPR (2015) the level of contributions from related parties and/or equity participants is capped at a maximum of EUR 25 million over three reporting periods, including transactions that are not in accordance with the arm's length principle.[44] EPFCs with an international outlook are therefore guided via UEFA FFP to reduce their benefactor reliance and to operate with relevant income.[45]

44 Income transactions above or expense transactions below fair value are not in line with the arm's length principle. UEFA Compliance and Investigation Activity Reports (CFCB IC, 2015, 2018) outline detailed compliance activities conducted to ensure the implementation of the UEFA CLFFPR (2015). Audit findings confirm undisclosed related-party transactions subject to fair-value adjustment, incorrectly disclosed donations from related parties, sponsorship income from related parties above fair value, and interest charges on soft loans from related entities that were subject to a fair-value adjustment.

45 Domestic club licensing regulations do not restrict contributions from equity participants and/or related parties. This is often discussed ambiguously: stakeholders in Germany, for example, including the administrations of several German top-flight clubs, have repeatedly criticized clubs that benefit from an exception to the "50+1" rule and concomitant advanced shareholder contributions (e.g., Bode, 2017). However, measures that restrict related-party contributions – e.g., FFP – have not been introduced at domestic level either. Leagues that have introduced cost-cutting measures include, for example, the EPL (Morrow, 2016), the Italian Serie A (FICG, 2016) and the Spanish La Liga (La Liga, 2015).

Consequently, the benefactor-reliant business model does arguably neither constitute sustainable conditions nor growth potential: firstly, this soft-budget constraint syndrome is affiliated with a high risk due to managerial expectations that deficits will be consistently covered *ex post* (Storm & Nielsen, 2012); secondly, incentives for a long(er)-term orientation are limited (ECA, 2015); thirdly, the club management focuses more on the club-benefactor relationship than the current or prospective efficient use of resources (Nielsen & Storm, 2017). Following this argument on clubs' short-term orientation,[46] I expect that sustainable/core YD operations have not been implemented and the strategic importance of sustainable components, i.e., commercial and youth, is furthermore neglected in anticipation of benefactor support.

H1: Clubs operating with a subsidy-reliant business model (1) have failed to implement effective YD structures; and (2) undervalue the strategic importance of YD (and other sustainable strategic components).

2.3.2 Business Model Reliant on Prize Money

Under this business model, clubs aim for prize money from qualification for UEFA competitions, i.e., the UCL and the UEL (Franck, 2010). The share of UEFA prize money in a club's total budget can thereby amount to up to 90% (UEFA, 2017b), regardless of the club's performance in the competition, due to qualification bonuses and market pool shares (Pawlowski, Breuer, & Hovemann, 2010).[47] However, the risks are evident: first and foremost, clubs need to qualify on sporting merit via their domestic competitions. The

46 Only the usage of benefactor support to strengthen club operations and/or to initiate turnaround proceedings could be considered as a longer-term focus – however, such strategies are characterized by their long-term components, i.e., the establishment of commercial channels or YD structures, rather than by their dependency on benefactors. Contributions of above EUR 25 million are – under specific conditions and due to a structured set of obligations agreed with the CFCB IC – possible under the UEFA CLFFPR (see Annex XII, Voluntary Agreement).

47 In season 2016/17, net commercial revenues amounting to EUR 1.4 billion were distributed from UEFA to UCL participants (ECA, 2017a), and EUR 0.4 billion to UEL participants (ECA, 2017b). Solidarity payments for qualification rounds range from EUR 200,000 for UEL qualifying to EUR 400,000 for UCL third qualifying round. In case of successful qualification, clubs receive so-called participation bonuses of EUR 12.7 million for the UCL group stage, and EUR 2.6 million for the UEL. Performance-related bonuses and the broadcasting market pool are the main sources of prize money. Within season 2016/17, the minimum earnings per club amounted to EUR 18.7 million in the UCL and EUR 3.6 million in the UEL – i.e., constituting a substantial budget share for small and mid-sized clubs (UEFA, 2017b, 2018a).

predictability of sporting qualification thereby varies between leagues due to the number of qualification spots available as well as the degree of ossification (D'Andrea & Masciandaro, 2016).[48] Secondly, clubs that qualify on sporting merit need to fulfil the UEFA CL requirements, although 1,275 EPFCs (i.e., 18% of all license applicants) were refused the mandatory UEFA license between 2004 and 2016 (UEFA, 2015). Thirdly, given that clubs with this business model are likely to overspend in the bet for sporting success (Dietl *et al.*, 2008), non-qualification entails a significant financial risk due to personnel cost structures being less volatile than (often performance-based) income streams. This is even aggravated in case that liquidity shortages are covered via factored prize money. Fourthly, external conditions might affect prize money, e.g., macroeconomic conditions impacting the market pool, exchange rate devaluation or regulatory interventions (e.g., amended redistribution).

Based on the significant affiliated risks of operating with a prize-money-reliant business model, its sustainable conditions and future prospects appear limited: firstly, management is short-term focused on sporting results and targeted UEL/UCL qualification; secondly, anticipated prize money results in an overspending on players in the bet for success (Dietl *et al.*, 2008); thirdly, fielding inexperienced players might jeopardize the sporting target, so that YD as a sustainable operation and strategic component is subordinated (ECA, 2015). Such a negative outlook is mitigated only by (limited/international) commercial growth options in case that the UEL/UCL participation is monetized via supportive commercial activities. Accordingly, with an emphasis on YD, the second hypothesis predicts that:

H2: Clubs operating with a prize-money-reliant business model (1) have failed to implement effective YD structures; and (2) undervalue the strategic importance of YD (but value the commercial strategic component).

2.3.3 Business Model Focusing on Player Trading

Clubs with a focus on player trading are strategically focused and dependent on regular profits from the sale of players, primarily club-trained players [CTPs] (ECA, 2015). Player recruitment strategies can thereby be twofold: either players are recruited at young age for

48 The number of places allocated to a national association depends on its coefficient, i.e., calculated on the basis of the results of each of the association's clubs in the five previous UEL/UCL seasons (UEFA, 2017d).

comparatively low recruitment costs, i.e., training compensation[49] (Fédération Internationale de Football Association [FIFA], 2017; FIFA's Regulation on the Status and Transfer of Players [RSTP], 2018), and subsequently developed in the club's youth academy, or players are recruited as young professionals, in which case the transfer fee is up for negotiation. Both approaches are subject to regulations on the international transfer of minors (FIFA RSTP, 2018), under which their free movement is restricted in order to limit exploitation (EC, 2007).[50] Overall, clubs aim to sell (club-trained) players after prospective first-team appearances with a significant surplus on the initial recruitment and/or development costs (ECA, 2015, 2018b). The benefits and opportunities of this business model are apparent: the inflation of transfer prices and overall significant increase in gross transfer spending (UEFA, 2018a) are advantageous market conditions. Further, such clubs benefit from the accounting treatment of intangible assets (i.e., IAS 38, Deloitte, 2017): while costs for player registrations are systematically amortized over each player's contractual period (with CTPs not being capitalized since costs of the asset cannot be reliably measured (Deloitte, 2017)), net profits, i.e., net disposal proceeds received and receivable deducted by the player's net book value, are recognized in full at the time of the transfer (Deloitte, 2017; UEFA CLFFPR, 2015). However, fluctuations in transfer income are a risk of high dependency on transfer proceeds (e.g., FC Porto, 2017). Such uncertainty is affiliated to budgeting and financial (e.g. cash-flow) difficulties. In addition, regulatory interventions, such as the prohibition on third-party ownership [TPO] of players[51] (FIFA RSTP, 2018) (or prospective measures with regard to

49 Art. 20 FIFA RSTP (2018): "Training compensation shall be paid to a player's training club(s): (1) when a player signs his first contract as a professional and (2) each time a professional is transferred until the end of the season of his 23rd birthday." The obligation to pay training compensation arises whether the transfer takes place during or at the end of the player's contract. The provisions concerning training compensation are set out in Annexe 4 of these regulations." Maximum recruitment costs amount to EUR 90 thousand (i.e., transfer to a category I club of UEFA) in accordance with the RSTP and training costs categorization by federation (FIFA, 2017).

50 Art. 19 FIFA RSTP (2018): "(1) International transfers of players are only permitted if the player is over the age of 18. (2) The following three exceptions to this rule apply: a) The player's parents move to the country in which the new club is located for reasons not linked to football; b) The transfer takes place within the territory of the European Union or European Economic Area and the player is aged between 16 and 18. (…); c) The player lives no further than 50km from a national border and the club with which the player wishes to be registered in the neighboring association is also within 50km of that border. The maximum distance between the player's domicile and the club's headquarters shall be 100km. In such cases, the player must continue to live at home and the two associations concerned must give their explicit consent."

51 TPO, with its prevalent forms of finance and investment TPO, refers to the acquisition of players' economic rights, i.e., economic participation or a future credit related to the eventual transfer of the player's registration by a third party. FIFA banned TPO with effect as of January 2015 (FIFA, 2014), further confirmed by the CAS in 2017 (CAS, 2017).

squad and/or loan restrictions) necessitate amendments to this business model (EC, 2018b). From a sporting and risk perspective, clubs are forced to build in (inexperienced) youngsters to their first team, resulting in a comparatively high squad turnover (Poli, Ravenel, & Besson, 2017) and a higher risk of inconsistent performances.

This business model is consequently affiliated with significant business chances as well as business and sporting risks, and it is – in the case that regular transfer profits are financially mandatory in order to break-even – characterized by its unsustainability (cf., CFCB IC, 2018). Conversely, in case of no budget-reliance, its outlook seems advantageous: firstly, the model can serve as a countervailing measure for (comparatively) weaker commercial conditions (EC, 2018b), lowering the strategic importance of commercialization; secondly, the transfer price evolution provides (financial) growth options (UEFA, 2018a); thirdly, effective YD – i.e., operational excellence in the scouting, onboarding and development of talents (e.g., Schiemann, 2014) – is arguably implemented due to its centrality for this business model. Accordingly, I hypothesize that:

H3: Clubs operating with a player-trading-focused business model (1) have implemented effective YD structures; and (2) value the strategic importance of YD (but undervalue other (un)sustainable strategic components).

2.3.4 Business Model Focusing on Commercial Activities

EPFCs with a commercially driven business model build and subsequently exploit their (comparatively) strong commercial, media and brand[52] value in regional, domestic and international markets. Value drivers are, *inter alia,* past and current sporting success, squad value, fan satisfaction and media presence (Brand Finance, 2017). As a result, extended commercial activities drive the revenue streams and concomitant values of elite/global super clubs (UEFA, 2018a). In terms of revenues, the top 15 clubs (by revenue in FY2016) generated 75% of the EUR 2 billion increase in sponsorship and commercial revenues seen since 2009 (UEFA, 2018a), driven by blockbuster deals with kit manufacturers and several

52 ISO (2010) defines brands as: "a marketing related intangible asset including, but not limited to, names, terms, signs, symbols, logos and designs, or a combination of these, intended to identify goods, services or entities, or a combination of these, creating distinctive images and associations in the minds of stakeholders, thereby generating economic benefits/value."

corporate partners (Deloitte, 2018; Brand Finance, 2017).[53] In terms of corporate/brand value, i.e., driven by EPFCs' revenue level, assets and commercial potential, market leaders such as Manchester United FC, Real Madrid CF, FC Barcelona, Chelsea FC and FC Bayern Munich are valued at above EUR 1 billion (Brand Finance, 2017).

Key elements of this business model are the marketing of disaggregated sponsorship/ commercial rights across partnership levels, industries and territories (Semens, 2016; Brand Finance, 2017). Supplementary, diversification on core, related and unrelated business fields throughout all regions is important for clubs in response to the maturation tendencies of local/ core markets as well as international commercial opportunities (Schmidt & Holzmayer, forthcoming). Using the digitalization and changing consumer landscape, clubs, for example, service B2B and B2C customers with customized content (Lakhani *et al.*, 2016). Internationally, levers are investments and partnerships in foreign ecommerce structures (Lakhani *et al.*, 2016), market-dedicated teams (e.g., a specialized social media team of the EPL for the Chinese market (Panja, 2017)), local offices to service international clients (e.g., Manchester United, FC Bayern Munich, Real Madrid or FC Barcelona (Marsden, 2016; Schmidt, 2017a)), foreign promotional tours (Van Overloop, 2015) or strategic partnerships with foreign clubs, companies or investors (Schmidt & Holzmayer, forthcoming).

The commercial business model is arguably sustainable and provides a promising outlook due to the long-term focus/benefit that clubs gain from the successful implementation of commercial structures (e.g., international offices). Such clubs are financially advanced and operate with a high degree of professionalism (Szymanski & Kuypers, 1999; UEFA, 2018a). Business activities are related and unrelated to clubs' core business (Schmidt & Holzmayer, forthcoming).[54] Strategically, in the arm's race for sporting success inter elites, clubs are

53 For instance (Brand Finance, 2017; UEFA, 2018a): Manchester United with Adidas (EUR 85 million p.a.) and Chevrolet (EUR 54 million p.a.), FC Barcelona with Nike (EUR 155 million p.a.) and Rakuten (EUR 55 million p.a.), Chelsea with Nike (EUR 68 million p.a.) and Yokohama (EUR 45 million p.a.) or FC Bayern Munich with its shareholder Adidas (EUR 90 million p.a.).

Blockbuster deals are also generated by top leagues. Thereby apparent is the international dominance of the EPL, e.g., with six out of ten of the most valuable clubs (Brand Finance, 2017), the largest share of international sponsors and shareholders (UEFA, 2018a), and marketing its international broadcasting rights at premium prices, e.g., for EUR 640 million to the digital broadcaster PPTV for China in the cycle 2019/20 to 2021/22 (Jourdan, 2016).

54 In an extension of the commercial focus (Schmidt & Holzmayer, forthcoming), I refer to the football operations as EPFCs' core business (see Figure 2.III). Related commercial opportunities are, for example, the operation of sports media channels (e.g., Benfica, 2017) or e-sports engagements (e.g., FC Schalke,

expected to continue focusing on their commercial footprint on domestic and foreign solvent markets. Their reliance on other strategic components is hence anticipated to be low. This is also the expectation for YD: while the level of professionalism, financial strength and the certification of YEA by its affiliated leagues (e.g., EPL, 2017; DFL, 2018b) arguably results in effective sustainable/core YD structures, financially advanced clubs are, nevertheless, talent buyers (UEFA, 2018a). The strategic importance of developing talents is hence expected to be low. Focusing on YD, the fourth hypothesis predicts that:

H4: Clubs operating with a commercially-focused business model (1) have implemented effective YD structures; though (2) undervalue the strategic importance of YD (but value the commercial strategic component).

2.3.5 Business Model Focusing on Youth Development

Clubs operating with a YD-focused business model aim first and foremost at integrating CPTs on their first teams (ECA, 2015). Such focus defines the club's DNA (Nesti & Sulley, 2014). While this sustainable/core component can be strategically relevant for the entire spectrum of clubs, especially EPFCs with comparatively limited funds – which can also be top-league clubs in comparison with their direct international/national peers – allegedly build their business models on YD (ECA, 2015). The prospective benefits are non-economic and economic in nature (cf., dissertation chapter 3 [Article 2]: Does TM Create Organizational Value? Empirical Evidence from the Talent Pools of EPFCs): from a sporting perspective, talents advance in the best case to club-internal senior level and guarantee sporting continuity, while from a financial perspective, clubs benefit from transfer proceeds and transfer savings (i.e., no amortization costs for player registrations) (ECA, 2018b; EC, 2018b). Concomitant risks are primarily the high attrition rate of talents (Güllich, 2014; Kassis *et al.*, 2017; Dowling *et al.*, 2018), as well as the difficulty of retaining talented youth players from early transfers. While training clubs only receive predefined (and comparatively low (EC, 2018b)) compensation payments (Nesti & Sulley, 2014; FIFA RSTP, 2018),[55] youngsters are attracted

Manchester City and AS Rome (Schmidt & Holzmayer, forthcoming)), while unrelated commercial opportunities exist from, for example, university offerings (e.g., FC Barcelona (2016), VfL Wolfsburg (2017)) or start-up investments (Schmidt & Holzmayer, forthcoming)).

55 Art. 20 FIFA RSTP (2018): "Training compensation shall be paid to a player's training club(s): (1) when a player signs his first contract as a professional and (2) each time a professional is transferred until the end of

by signing bonuses, other financial means and/or job offerings for parents.[56] The establishment of non-financial ways to retain players is thereby key, *inter alia*, the club's positioning and reputation as a talent developer along with suitable academy conditions (Relvas *et al.*, 2010; De Knop, Van Hoecke, & De Bosscher, 2004). Clubs' organizational structures and operational working practices appear conducive to increasing their effectiveness (Relvas *et al.*, 2010).

This business model (and strategy component) addresses the sporting/core activity of football clubs. Established structures and management practices provide a long-term benefit and are considered sustainable, further providing an advantageous outlook. Clubs are self-determined to implement such structures and less reliant on external market conditions (EC, 2018b). Compared with other expense streams (e.g., transfer and personnel costs), investment/ implementation costs are relatively low and supported by the regulatory framework, e.g., UEFA CLFFPR (2015). Overall, EPFCs operating under this business model focus on the core and sustainable activity of clubs: i.e., YD. Regardless of other economic drivers, the implementation of effective YD structures facilitates a sporting and financial "return". Clubs are expected to focus on this business model predominantly to offset structural deficiencies, so that the dependency on other strategic components, except for player trading, is reduced. I thus hypothesize that:

H5: Clubs operating with a YD-focused business model (1) have implemented effective YD structures; and (2) value the strategic importance of YD (but undervalue other (un)sustainable strategic components).

the season of his 23rd birthday. The obligation to pay training compensation arises whether the transfer takes place during or at the end of the player's contract. The provisions concerning training compensation are set out in Annex 4 of these regulations." Maximum recruitment costs amount to EUR 90,000 (i.e., transfer to a UEFA category I club) in accordance with the FIFA RSTP and training costs categorization (FIFA, 2017).

56 The latter, job offerings for parents, can be an attempt to circumvent the protection of minors. In accordance with Art. 19.1 and 19.2a FIFA RSTP (2018): (1) "International transfers of players are only permitted if the player is over the age of 18" (p. 22) while 2(a) "[…] exceptions to this rule apply: The player's parents move to the country in which the new club is located for reasons not linked to football." In several decisions against clubs by the FIFA Disciplinary Committee and CAS it has been confirmed that "Article 19 para. 2 (a) RSTP aims to protect the young player who follows his family moving abroad for personal reasons, and not the parents who follow their child in the view to integrate a club situated abroad. The test is thus, to assess the true intention and motivation of the player's parents." (CAS, 2013, p. 2). Several top-flight clubs, e.g., FC Barcelona, Real Madrid and Atletico Madrid, have violated such provision and consequently been sanctioned with fines and/or transfer bans in recent years (CAS, 2013, 2015; FIFA, 2016).

Table 2.I: Business Models [BM] / Strategy Components, Definitions and Hypothesized Associations (with an Emphasis on TM/YD)

Business models/ strategies	Definition (categorization)	Hypothesized relation between BM and prevalent/implemented effective YD/TM	Hypothesized relation between BM and strategy components
Benefactor *MBEN (BEN)*	Soft-budget operation with reliance on *ex post* coverage of deficits (unsustainable/unrelated)	***H1(1)*** Clubs operating with an MBEN-reliant BM have failed to implement effective YD structures.	***H1(2)*** Clubs operating with an MBEN-reliant BM undervalue the strategic importance of YD.
Prize Money *MPRI (PRI)*	Reliance on sporting success and UEL/UCL prize money financing (unsustainable/related)	***H2(1)*** Clubs operating with an MPRI-reliant BM have failed to implement effective YD structures.	***H2(2)*** Clubs operating with an MPRI-reliant BM undervalue the strategic importance of YD.
Player Trading *MTRA (TRA)*	Focused on profits from player trading with inestimable market conditions (unsustainable/core)	***H3(1)*** Clubs operating with an MTRA-focused BM have implemented effective YD structures.	***H3(2)*** Clubs operating with an MTRA-focused BM value the strategic importance of YD.
Commercial *MCOM (COM)*	Commercial focus substantiated by marketing/corporate structures (sustainable/(un-)related)	***H4(1)*** Clubs operating with an MCOM-focused BM have implemented effective YD structures.	***H4(2)*** Clubs operating with an MCOM-focused BM undervalue the strategic importance of YD.
Youth Development *MYTH (YTH)*	Focused on the development of CTPs, substantiated by respective club operations (sustainable/core)	***H5(1)*** Clubs operating with a MYTH-focused BM have implemented effective YD structures.	***H5(2)*** Clubs operating with a MYTH-focused BM value the strategic importance of YD.

2.4 DATA AND METHODOLOGY

2.4.1 Data Sample

The dataset of this research article comprises 110 top-division EPFCs from 24 European national associations.[57] The EPFCs were surveyed between January and August 2017 on the importance of various business strategy components (see Appendix Figure A2.I), with their respective core business models being classified by UEFA experts complementarily.[58] Data on TM performance was collected from the CIES. Additional measures, such as each club's league affiliation, revenue classification and player trading results, have been sourced from the most recent UEFA Benchmarking Reports (2018a, 2017b) and transfermarkt.de.

This highly unique dataset – i.e., providing holistic strategy insights based on primary data, ensuring a multi-organizational (high profile elite/non-elite EPFCs) and pan-European scope – expands previous studies on sub-groups, *inter alia*, on elite clubs (Rohde & Breuer, 2016) and commercial strategies (Schmidt & Holzmayer, forthcoming). Such extension crucially enables a holistic business model/strategy assessment in view of the industry predicament.

2.4.2 Measures

2.4.2.1 Core Business Models

The categorization of implemented business models is, as previously outlined, defined in accordance with the ECA Club Management Guide (2015), as follows: business model reliant on benefactors and subsidies *(MBEN)*, business model reliant on UCL/UEL qualification and concomitant prize money *(MPRI)*, business model reliant on player trading *(MTRA)*, business model focusing on commercial activities *(MCOM)*, and business model focusing on YD *(MYTH)*. Such classification of clubs into business models was carried out by a UEFA expert

57 Top-division teams from the following countries have participated: Austria, Belgium, Belarus, Bulgaria, Croatia, Denmark, England, Finland, France, Germany, Hungary, Italy, Netherlands, Norway, Portugal, Russia, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the Ukraine.

58 Data were polled in collaboration with UEFA: 158 clubs from 25 national associations were addressed; 113 clubs from 24 national associations responded. Three clubs were excluded from the dataset by UEFA due to incomplete data and/or missing consent to use the data for academic research. Based on the authorizations granted by each of the 110 clubs in the sample, the dataset was provided in fully anonymized form by UEFA.

panel of the Financial Sustainability & Research Division. Based on their competency in, *inter alia*, CLFFP and club benchmarking, the experts have comprehensive and unparalleled insights into the business models of EPFCs (CFCB IC, 2015, 2018; UEFA, 2017b, 2018a).[59]

2.4.2.2 Strategy Components

The importance of various business strategy components (i.e., prospective economic drivers) were evaluated by the management of EPFCs on a Likert scale from 1 (not at all important) to 5 (absolutely essential), i.e., the strategic importance of subsidies *(BEN)*, prize money *(PRI)*, player trading *(TRA)*, commercial activities *(COM)* and youth development *(YTH)*.[60]

2.4.2.3 Effective Core/Sustainable Operations (YD Structures)

The prevalence of effective core/sustainable YD structures is operationalized by EPFCs' TM performance: i.e., the number of CTPs. These are players who, between the age of 15 and 21, irrespective of the player's nationality and age, have been registered with the training club for a period of three entire seasons or of 36 months (FIFA RSTP, 2018) and were performing in one of Europe's top 31 professional leagues in season 2016/17. Within this paper, CTPs are further categorized by their employment club in season 2016/17, i.e., playing for a club in a top 5 league *(CTP5)*, a top 31 league *(CTP31)*, and/or with their training club *(CTPIN)*.[61] This categorization reflects a quality component of players (and, indirectly, TM structures). In addition, the net player trading result – i.e., operationalized by the number of years with positive net player trading results in the five seasons from 2011/12 to 2016/17 *(TRAR)* –

59 The expert panel consisted of Mr. Rodriguez (UEFA Head of Financial Monitoring and Compliance), Mr. Rasmussen (UEFA Head of Financial Fair Play), and Mr. Bernardi (UEFA Club Licensing Manager).

60 The Likert scale was defined as follows: 1 not at all important; 2 of little importance; 3 of average importance; 4 very important; 5 absolutely essential.

61 As an alternative measure, the number of CTP was weighted by the players' average age and employment rate, consequently accounting for and favoring, firstly, clubs with a low average age of CTPs, i.e., an indicator for recent good YD, and secondly, a high employment rate among CTPs, i.e., an indicator of CTP quality. Employment rate is thereby defined as the minutes played by the CTP as a percentage of the total minutes played by players on the relevant team in season 2016/17. Due to (almost) perfect correlations between CTP and the alternative measure, the factual (and unadjusted) measure of overall number of CTP is considered hereafter.

provides a further complementary objective indication, i.e., of whether a club operates as a talent buyer or seller (UEFA, 2018a).

2.4.2.4 Club and League Characteristics

Several club- and league-specific characteristics are further included in order to link EPFCs' business models and strategies to their specific internal and external contexts: financial strength is operationalized by the clubs' league affiliation, i.e., top 5 league *(LEA5)*, top 6-10 league *(LEA610)* or top 11-31 league *(LEA1131)*, whereas clusters are based on aggregated revenues as common categorization (UEFA, 2017b, 2018a).[62] The sporting level of leagues is reflected by the UEFA association club coefficients[63] (UEFA, 2017d), and CTP acceptance in domestic leagues by the average employment time *(EMP)* in season 2016/17 (CIES, 2017).

Table 2.II provides the respective overview of measures.

2.4.3 Methodology

Descriptive statistics on prevalent league characteristics, business models and strategy components provide the analytical basis. Subsequently, the hypothesized associations between business models and strategy components – plus their respective relations with prevalent YD structures/TM performance and EPFCs' business context – are tested by correlation analysis. Due to differing scale levels of considered variables, different coefficients have been calculated: (1) the Cramers' V as association measure between business models and club strategies (plus supplementary Kendall's Tau as approximation for factor loading); (2) the Spearman's Rank Coefficient for the correlation between club strategies; and the (3) Point Biseral Correlation for the association between club business models and TM performance (plus the Pearson's r as factor loading).

62 Leagues clusters are defined as follows (UEFA, 2017b, 2018a): (1) Top 5 leagues: England, Germany, Spain, Italy, France; (2) Top 6-10 leagues: Russia, Turkey, Netherlands, Belgium, Portugal; (3) Top 11-31 leagues: Austria, Belarus, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Finland, Greece, Hungary, Israel, Norway, Poland, Romania, Scotland, Serbia, Slovakia, Slovenia, Sweden, Switzerland, Ukraine.

63 The UEFA club coefficient ranking is determined by the sporting results of clubs competing in UEFA competitions during the five previous seasons (2012-2017).

2.4.4 Overview of Measures

Table 2.II: Variable Definition, Operationalization and Measurement

Variable	Definition	Operationalization/ Measurement
Business model		
MBEN	Current reliance on benefactors/subsidies	UEFA expert categorization:
MPRI	Current reliance on prize money	1 club operates under respective business model;
MTRA	Current reliance on player trading	0 club does not operate under respective business model
MCOM	Current reliance on commercial activities	
MYTH	Current reliance on youth development	
Strategy component		
BEN	Prospective importance of benefactors	Evaluation by management of respective EPFC:
PRI	Prospective importance of prize money	Likert scale from 1 (not at all important) to 5 (absolutely essential)
TRA	Prospective importance of player trading	
COM	Prospective importance of commercial activities	
YTH	Prospective importance of YD	
Club TM performance		
CTP5	CTPs playing in one of the top 5 leagues	Number of CTP performing for a EPFC in Top 5/31 league or in their home/training club in season 2016/17
CTP31	CTPs playing in one of the top 31 leagues	
CTPIN	CTPs playing for the home club	
TRAR	Player trading result	Number of years with positive net transfer balance in seasons 2012-2017
Club characteristics		
LEA5	Club affiliation to top 5 league	1 Club is playing in respective league category;
LEA610	Club affiliation to top 6 to 10 league	0 Club is not playing in respective league category
LEA1131	Club affiliation to top 11 to 31 league	
League characteristics		
LEA	League classification	1 Top 5; 2 Top 610; 3 Top 1131
ACC	Association club coefficient	Coefficient based on UEL/ UCL results of association's clubs in seasons 2012-2017
NTE	League average of CTP employment time	Percentage of domestic league minutes played by CTPs in home clubs in season 2016/17

2.5 RESULTS

2.5.1 League Clusters and their Characteristics

Before focusing on club business models, certain league characteristics are outlined (see Table 2.III): *LEA5* are leagues with strongly performing clubs in European competitions *(ACC)* (rpb= -.868; r=.868; *p*=.000) that successfully develop top talents *(CTP5)* (rpb= -.744; r=.744; p=.000), but integrate fewer CTPs overall (*CTPIN*: rpb=.318; r= -.318; *p*=.000; *NTE:* rpb=.282; r= -.282; *p*=.003). *LEA610* clubs develop less top talent *(CTP5)* (rpb=.234; r= -.234; *p*=.014) and provide limited playing time to CTPs (*NTE*) (rpb=.425; r= -.425; *p*=.000). *LEA1131* clubs are less competitive at international level (*ACC)* (rpb=.805; r= -.805; *p*=.000), but integrate and rely on home-grown talents on their first teams (*CTPIN*: rpb=-.399; r=.399; *p*=.000; *NTE:* rpb= -.627; r=.627; *p*=.000), while developing fewer top talents (*CTP5)* (rpb=.524; r= -.524; *p*=.000).

Table 2.III: League Cluster Characteristics

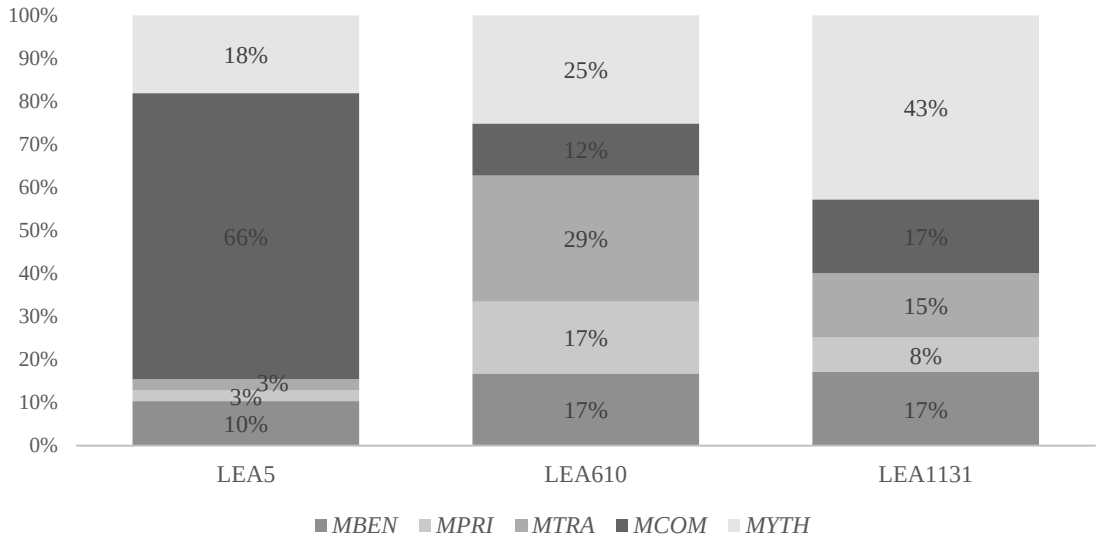
	LEAGUE CLUSTER					
	LEA5		***LEA610***		***LEA1131***	
	rpb	r	rpb	r	rpb	r
League characteristics						
ACC	**(.868)*** **	**.868**	.041	(.041)	**.805*** **	**(.805)**
CTP5	**(.744)*** **	**.744**	**.234***	**(.234)**	**.524*** **	**(.524)**
CTP31	**.238***	**(.238)**	(.113)	.113	(.136)	.136
CTPIN	**.318*** **	**(.318)**	.110	(.110)	**(.399)*** **	**.399**
NTE	**.282** **	**(.282)**	**.425*** **	**(.425)**	**(.627)*** **	**.627**

Note: Point Biseral Correlation [rpb] (plus Pearson's [r] coefficient as factor loading) is illustrated for the association of business models and TM performance; *, **, and *** represent statistical significance at the 5%, 1%, and .1% level, respectively.

2.5.2 Business Models by League Cluster

EPFCs' business models differ significantly by league cluster, i.e., by the financial strength of leagues and their affiliated clubs (see Figure 2.IV). Within the *LEA5*, two thirds of clubs operate with a business model that focuses on commercial activities ($MCOM_{LEA5}$: 66%). Other models are less relevant, e.g., with 18% of clubs focusing on $MYTH_{LEA5}$ and 10% of clubs being reliant on $MBEN_{LEA5}$. Such a significant commercial focus cannot be confirmed for other leagues *LEA631*. Clubs from *LEA610*, by contrast, focus on $MTRA_{LEA610}$ (29%) and $MYTH_{LEA610}$ (25%), while the focus on YD is even more prevalent among *LEA1131* clubs ($MYTH_{LEA1131}$: 43%). Further taking interlinked *MTRA* strategies into account, 58% of *LEA1131* clubs focus on either $MYTH_{LEA1131}$ or $MTRA_{LEA1131}$. Benefactors are comparatively more relevant in both *LEA610* and *LEA1131* ($MBEN_{LEA631}$: 17%).

Figure 2.IV: Business Models by League Cluster



Source: own illustration

These findings are further confirmed and extended by the bivariate results (see Table 2.IV): the *MCOM*, prevalent in top leagues (V=.519; τ= -.421; *pr*=.000), is affiliated to a strong sporting landscape (*ACC*) (rpb= -.474; r=.474; *p*=.000) with restricted playing time for talents (*NTE)* (rpb=.254; r= -.254; *p*=.008). The *MTRA* and *MYTH* are countervailing models for

lower leagues (V=.287; τ=.133; *pr*=.011 and V=.243; τ=.227; *pr*=.039), i.e., *MYTH* is operated in leagues with a weaker sporting landscape (*ACC*) (rpb= .285; r= -.285; *p*=.003) in which more playing time is provided to talents (*NTE)* (rpb= -.250; r=.250; *p*=.008).

Table 2.IV: Correlation between Club Business Models and League Characteristics

	CLUBS BUSINESS MODEL									
	MBEN		***MPRI***		***MTRA***		***MCOM***		***MYTH***	
	V	τ	V	τ	V	τ	V	τ	V	τ
LEAGUE										
LEA	.090	.078	.189	.079	**.287***	**.133**	**.519*****	**(.421)**	**.243***	**.227**
	MBEN		***MPRI***		***MTRA***		***MCOM***		***MYTH***	
	rpb	r	rpb	r	rpb	r	rpb	r	rpb	r
LEAGUE										
ACC	.070	(.070)	.076	(.076)	.140	(.140)	**(.474)*****	**.474**	**.285****	**(.285)**
NTE	.028	(.028)	.093	(.093)	(.118)	.118	**.254****	**(.254)**	**(.250)****	**.250**

Note: Cramer's V [V] (plus Kendall's Tau-b [τ] as approximation for factor loading) is illustrated for the association between business models and strategy components; Point Biseral Correlation [rpb] (plus Pearson's [r] coefficient as factor loading) is illustrated for the association between business models and TM performance; *, **, and *** represent statistical significance [of V/rpb] at the 5%, 1%, and .1% level, respectively.

2.5.3 Strategy Components by League Cluster

Focusing on the importance of various strategy components irrespective of the business model implemented (see Table 2.V), *YTH* is valued as the most important strategy component of clubs throughout all league clusters (Mean *YTH* = 4.346 out of 5 (absolutely essential)). Complementarily, *COM* and *TRA* are indicated as very important to all leagues, while *COM* is more important for clubs from *LEA5*, and *TRA* for clubs from *LEA631*. *PRI* is most important for clubs from *LEA610*, while *BEN* is for clubs from *LEA1131*.

Table 2.V: Descriptive Results on the Importance of (Individual) Strategy Components

	LEAGUE							
	LEA5	***LEA610***	***LEA1131***	**ALL**				
	Mean	Mean	Mean	Mean	SD	Median	Min	Max
STRATEGY								
BEN	2.821	2.875	3.043	2.927	1.254	3	1	5
PRI	3.256	3.458	3.149	3.255	1.215	4	1	5
TRA	3.872	4.042	3.958	3.946	0.985	4	1	5
COM	4.026	3.667	3.745	3.827	1.003	4	1	5
YTH	4.513	4.167	4.298	4.346	0.962	5	1	5
N	39	24	47	110				

2.5.4 EPFCs' Business Models and Associated YD Structures plus Strategic Plans

The bivariate results on the relationship between clubs' business models and strategy components – plus the prevalence of effective YD structures (i.e., clubs' TM performance and, complementarily, transfer performance) – are illustrated in Table 2.VI. Correlations inter strategies are outlined in Table 2.VII.

Before going into detail on the various business models, it is notable overall that the association between each business model and its pertinent strategy component (i.e., *MBEN/BEN, MPRI/PRI, MTRA/TRA, MCOM/COM, MYTH/YTH*) is significant only for benefactor-reliant (*MBEN/BEN*: V=.552; τ=.356; *pr*=.000) and YD focused clubs (*MYTH/YTH*: V=.387; τ=.362; *pr*=.002). Prospective strategies (strategic plans) are seemingly not necessarily related to the business models implemented.

Table 2.VI: Correlation between Business Models and Strategy Components / TM Performance (Effective YD Structures)

	CLUBS BUSINESS MODEL									
	MBEN		***MPRI***		***MTRA***		***MCOM***		***MYTH***	
	V	τ	V	τ	V	τ	V	τ	V	τ
STRATEGY										
BEN	**.552*** **	**.356**	.147	(.004)	.212	(.067)	**.316***	**(.127)**	.142	(.091)
PRI	.147	(.095)	.261	.229	.263	.051	.243	(.045)	.209	(.055)
TRA	.263	(.110)	.208	(.137)	.214	.197	.199	(.139)	.197	.162
COM	.276	(.028)	.216	.183	.202	.001	.264	.163	**.316***	**(.256)**
YTH	**.375** **	**(.181)**	**.417** **	**(.143)**	.288	(.144)	.231	(.029)	**.387** **	**.362**
	MBEN		***MPRI***		***MTRA***		***MCOM***		***MYTH***	
	rpb	r	rpb	r	rpb	r	rpb	r	rpb	r
TM PERF-ORMANCE										
CTP31	.026	(.026)	.104	(.104)	(.155)	.155	**.296** **	**(.296)**	**(.271)** **	**.271**
CTP5	.172	(.172)	.159	(.159)	.144	(.144)	**(.330)*** **	**.330**	.005	(.005)
CTPIN	.123	(.123)	.065	(.065)	(.126)	.126	**.292** **	**(.292)**	**(.340)*** **	.340
TRAR	**.240***	**(.240)**	**.197***	**(.197)**	**(.254)** **	**.254**	**.252** **	**(.252)**	**(.373)*** **	.373

Note: Cramer's V [V] (plus Kendall's Tau-b [τ] as approximation for factor loading) is illustrated for the association between business models and strategy components; Point Biserial Correlation [rpb] (plus Pearson's [r] coefficient as factor loading) is illustrated for the association between business models and TM performance; *, **, and *** represent statistical significance [of V/rpb] at the 5%, 1%, and .1% level, respectively.

Table 2.VII: Correlations between Strategy Components

	CLUBS STRATEGY COMPONENTS				
	BEN	***PRI***	***TRA***	***COM***	***YTH***
STRATEGY					
BEN	1.000				
PRI	.175	1.000			
TRA	.064	.078	1.000		
COM	(.010)	**.205***	(.036)	1.000	
YTH	(.171)	(.162)	**.228***	(.075)	1.000

Note: Spearman's rho [ρ] is illustrated for the association between strategy components; *, **, and *** represent statistical significance at the 5%, 1%, and .1% level, respectively.

2.5.4.1 Results on the Benefactor/Subsidy-Reliant Business Model (MBEN)

Hypothesis 1.1 and 1.2 concluded that clubs operating with an *MBEN* fail to implement effective YD structures and undervalue the strategic importance of YD. The significant negative correlation between *MBEN* and *YTH* (V=.375; τ= -.181; *pr*=.004) confirms the low importance allocated to this sustainable/core strategy component (H1.2). While ineffective YD structures, operationalized by the number of *CTPs*, are not supported at the 5% significance level (H1.1), it is to be noted that benefactor-reliant clubs are confirmed as net spenders/buying clubs (*TRAR*) (rpb=.240; r= -.240; *p*=.011).

2.5.4.2 Results on the Prize-Money-Reliant Business Model (MPRI)

For clubs operating with an *MPRI*, prospective commercial activities *(COM)* are argued to be important, while other sustainable/unsustainable components, including *YTH*, are less relevant (H2.2). Effective YD operations *(CTP)* were not expected (H2.1). In support of H2.2, prize-money-reliant clubs indeed value the importance of *YTH* lower (V=.417; τ= -.143; *pr*=.001). Other strategic components – including the prospective importance of *COM* – are not significant. The expected positive affiliation to commercial activities, however, is confirmed when focusing on strategic interdependencies independently of the business model (see Table 2.VII). Clubs allocating a high prospective importance to *PRI* do so with *COM* (ρ=.205; *p*=.031). Further, in terms of effective TM structures, clubs with an *MPRI* operate as buying clubs *(TRAR)* (rpb= .197; r=-.197; *p*=.039), but affiliated lower success in TM *(CTP)* can (due to insignificant correlation) not be confirmed (H2.1).

2.5.4.3 Results on the Player-Trading-Reliant Business Model (MTRA)

Clubs with a business model focusing on *MTRA* were hypothesized to have implemented effective YD structures (H3.1), while allocating a high strategic importance to YD (further neglecting other strategic components) (H3.2). Neither the implementation of effective YD operations nor the business model to strategy relation can be confirmed. However, it is noted that this business model is concomitant with the creation of transfer surpluses *(TRAR)*

(rpb= -.254; r=.254; *p*=.008) and that, strategically, clubs that value *TRA* as an important strategic component further allocate importance to *YTH* (ρ=.228; *p*=.017).

2.5.4.4 Results on the Commercially-Focused Business Model (MCOM)

EPFCs with an *MCOM* were expected to be adequately funded, hence allocating lower importance to other sustainable/unsustainable strategy components, including (*YTH)* (H4.2). While the affiliated undervaluation of *YTH* cannot be confirmed, the *BEN* component is evaluated as less relevant (V=.316; τ= -.127; *pr*=.027). In terms of effective core/sustainable operations, and in confirmation of H4.1, *MCOM* clubs have indeed developed a higher number of top talents *(CTP5)* (rpb= -.330; r=.330; *p*=.000). Nevertheless, these clubs integrate fewer talents internally *(CTPIN)* (rpb=.292; r= -.292; *p*=.002) and develop a lower number of (successful) talents overall *(CTP31)* (rpb=.296; r= -.296; *p*=.002). This is in line with the tendency for commercially focused clubs *(MCOM)* to be talent buyers (rpb=.252; r= -.252; *p*=.008).

2.5.4.5 Results on the YD-Focused Business Model (MYTH)

H5.1 and 5.2 on clubs operating with a *MYTH* argued the prevalence of effective YD structures, concomitant with a high strategic importance allocated to YD. Complementarily, clubs were expected to value the importance of *TRA* but undervalue other unsustainable *(BEN, PRI)* and sustainable *(COM)* strategic components. The negative association of *MYTH* and *COM* (V=.316; τ= -.256; *pr*=.027) as well as positive link of *MYTH* and *YTH* (V=.387; τ= 362; *pr*=.002) supports H5.2. That clubs with a *MYTH* develop more CTPs (H5.1) is further confirmed by respective affiliations, i.e., *CTP31* (rpb= -.271; r=.271; *p*=.004) and *CTPIN* (rpb= -.340; r=.340; *p*=.000). Concomitantly, these clubs generate transfer surpluses *(TRAR)* (rpb= -.373; r=.373; *p*=.000).

2.6 DISCUSSION

The previous (bivariate) analysis examined the core business models of EPFCs against the central questions of: *How well positioned for the future are clubs under prevalent business models?* And: *How can prospective business models be strengthened?* Such future prospects were assessed via the association of business models with (1) the prevalent core/sustainable club operations, i.e., effective YD structures; and (2) affiliated strategic components. Provided that the business context pre-defines business models (Mintzberg, 1987), characteristics of the business context were analyzed and outlined complementarily.

Overall, the results and derived practical implications are tripartite: firstly, with pertinence for (European) football governing bodies and domestic leagues, the findings underline market failures and the consequent necessity of regulatory intervention; secondly, in confirmation of the current and strategic relevance of YD for EPFCs, framework conditions enhancing effective YD and securing a (sporting/financial) return on investment are to be strengthened; thirdly, focusing on EPFCs, the results on business models with ineffective YD structures and affiliated short-term outlooks indicate entry points to strengthen (and shape) sustainable business models with a positive outlook by the lever of YD as a core/sustainable component.

2.6.1 Practical Implications

2.6.1.1 Implications for (European) Football Governing Bodies

Focusing on governing bodies and key stakeholders first – for Europe, primarily UEFA, the ECA and the Association of European Professional Football Leagues – the results confirm an erroneous polarization of commercial strength (*LEA5/MCOM*), sporting success (*LEA5/ACC*) and talent (*LEA5/CTP5*). To address these market failures, regulatory interventions ought to be threefold: i.e., measures to enhance (1) financial sustainability, (2) financial balance, and (3) sporting balance (including strengthened framework conditions for YD) (cf., EC, 2018b).

Firstly, addressing financial sustainability, UEFA advances FFP as a core measure (i.e., a soft-budget constraint) triennial. Recent financial developments affirm its positive effects – *inter alia,* the significant reduction of (aggregated) net losses along with improved club profitability and net equity position (CFCB IC, 2018; UEFA, 2018a). Regulatory

amendments to the UEFA CLFFPR (2015) for the period 2018-21 are nevertheless deemed important to address the latest FFP cases (CFCB IC, 2018; UEFA, 2017c) by extending the monitoring scope (i.e., present *ex post* analysis to be complemented by monitoring of the current FY), harmonizing accounting principles and further increasing the transparency of financial statements and monitoring procedures (EC, 2018a, 2018b). In addition, legal experts consider a review of the sanction mechanism in case of non-compliance, as decided by the CFCB, to be necessary (Schickhardt, 2017; Pieper, 2017).

Secondly, in order to address the commercial arms race and consequent financial polarization, the introduction of egalitarian measures, such as a luxury tax on transfer costs, is being discussed by UEFA with various stakeholders (e.g., UEFA/Ceferin, 2017; UEFA, 2018b). More adequate, although extreme, seems to be a hard budget constraint on personnel and transfer costs in order to limit (current and, in tendency, fortifying) financial and consequent sporting polarization. While its implementation would appear difficult due to the specificities of the European model (e.g., addressing several legal landscapes, interference in the sovereignty and jurisdiction of FAs, etc.), the extended cooperation of UEFA and the European Commission is an important pre-requisite (UEFA, 2018c; EC, 2018a).

Thirdly, addressing the sporting divide, regulatory interventions have to be implemented in order to limit player hoarding and improve the framework conditions for clubs operating with a (strategic) focus on the core/sustainable business of YD (cf., ECA, 2018b). This includes, but is not limited to, harmonized squad-size limits and the regulation/limitation of multiple-club investors (cf., EC, 2018b).

Overall, the (implemented or potential) regulatory interventions outlined address ubiquitous market challenges. I note, however, that such interventions are politically and economically controversial (e.g., Szymanski, 2015; Budzinski, 2014; Madden, 2015; Pieper, 2017)[64] – which shifts further importance to the league and inevitably club perspective.

64 One common argument in favor of market self-regulation and against regulatory interventions in European football is that, economically, the revenues of European football have been increasing steadily in the last decades (UEFA, 2018a). While this is factually correct, in my opinion the European football market needs to be assessed in disaggregation from the monopolist power (Vöpel, 2011) and economically detached elite clubs (UEFA, 2018a). Further, such assessment needs to address the sustainability, competitive balance and fan (consumer) benefits of individual leagues/competitions in order to derive to an overall contextual picture. The argumentation for market self-regulation on the basis of the overall revenues of European football seems to be an economic short-cut for the benefit of the current elite clubs.

2.6.1.2 Implications for Domestic Leagues

The results by league cluster confirm the strategic relevance of YD for all leagues (e.g., Mean YTH_{LEA} = 4.346 out of 5 (absolutely essential)), while effective development structures have not been implemented ubiquitously. Reasons for the affiliated importance, however, differ between top- and non-top leagues due to their diverse business contexts:

Starting with the *LEA5*, the commercial focus and resulting financial and sporting supremacy is confirmed. Driven through domestic and international commercial approaches on solvent markets, along with the promise of digitalization (PwC, 2014b) and diversification (Schmidt & Holzmayer, forthcoming), the commercial outlook is prosperous (UEFA, 2018a). Nevertheless, domestic leagues face a "cross-road" (Merkel, Schmidt, & Schreyer, 2016, p. 296) between extensively commercialized competitions and the traditional European sports model. In its extremes, these challenges seem diametrically opposed: i.e., a trade-off between the international competitiveness of leagues' top clubs at the expense of imbalanced domestic competition versus international financial/sporting disadvantages in the interests of an improved, more level domestic playing field. Nevertheless, the importance of both – safeguarding domestically balanced (and financially sustainable) but internationally competitive leagues – requires stakeholders to respond with multi-level measures: Firstly, addressing the international competitiveness of leagues and affiliated clubs, commercial and international expansion (e.g., Hellmann, 2017; DFL, 2017)[65] is fortified, while the relaxation of domestic limitations for investors, such as the 50+1 rule in Germany, is under scrutiny (DFL, 2018a).[66] The latter, however, would necessitate further regulatory interventions, e.g.,

65 Increasing commercial approaches seem a compelling necessity for all top leagues and clubs – while, on the one hand, international and consumer-oriented approaches should not disregard traditional fan interests, on the other hand, fans need to accept the interlink between commercialization and financial and sporting competitiveness (Hellmann, 2017).

66 Focusing on the German BL and a potential modification of the 50+1 rule, the consequences would seem ambiguous. With majority investors, clubs benefit from increased financial means at the expense of autonomy. Proponents argue that German clubs would hence become more competitive on an international scale while the domestic league would be more balanced (Rummenigge, 2017). Opponents disagree and indicate that a current supremacy/hierarchy could even be manifested following higher investments due to higher enterprise values (KPMG, 2017).

Two other facts are notable in this regard: Firstly, the financial supremacy of the BL's direct competitor, the EPL, is primarily based on a stronger domestic (and international) broadcasting market plus the first-mover, linguistic and colonial advantage in its global commercialization. Secondly, such a premium in "relevant income" (UEFA CLFFPR, 2015) can only be compensated by contributions from equity participants and/or related party(ies) to the threshold stipulated by UEFA FFP (i.e., German clubs, due to concomitant ownership changes, might qualify for a so-called "voluntary agreements" (UEFA CLFFPR, 2015)). Therefore, in my

investor checks and regulations on the use of funds, in order to safeguard the integrity of competitions, fan interests and the long-term viability of clubs.[67] Secondly, and complementarily, egalitarian measures, e.g., distribution of centralized earnings or amended competition formats, are measures being discussed to improve (domestic) competitive balance (Szymanski, 2010; UEFA, 2018a). Thirdly, abstracting from the league perspective and focusing on EPFCs, the effective and innovative use of (limited or comparatively lower) resources will remain key to staying competitive (Pyatunin *et al.*, 2016). In this regard, the results underline improvement potential for *LEA5* clubs in the core/substantial business of YD. Despite evaluating *YTH* as an essential strategic component, which is in line with the level of investments being made (e.g., EPL, 2017; DFL, 2018b), the integration of CTPs on first squads is insufficient (i.e., TM effectiveness problem).

Focusing on the *LEA610*, the results underline that clubs countervail commercial disadvantages on their respective markets (ECA, 2015; UEFA, 2018a) by operating with business models that focus on player trading ($MTRA_{LEA610}$: 29%) or YD ($MYTH_{LEA610}$: 25%). This is further in line with the evaluation of YD as strategically essential. In contrast, however, YD operations appear to be ineffective, e.g., indicated by the development of less *CTP5*. The reason may be twofold: first, inadequate YD structures, and second, difficulties in retaining CTPs.

Similar conclusions can be drawn for the financially weak(er) *LEA1131*: 43% of affiliated clubs operate with a *MYTH* and, complementarily, 15% with a *MTRA*. Both strategic components, *YTH* and *TRA*, are further evaluated as very important. While the clubs and leagues are confirmed to be sportingly reliant on CTPs, the quality of YD structures has, however, to be strengthened (i.e., in status quo, fewer top talents developed). Regulatory support is consequently considered as pivotal (cf., EC, 2018b).

personal opinion, an abolishment of investor obstacles could improve clubs' competitiveness as long as (1) clubs attract strategic investors (i.e., to strengthen their international commercial footprint and to mitigate the risk of reduced autonomy), and (2) generated contributions are primarily invested strategically and in line with UEFA FFP for the long-term benefit of clubs, e.g., in YD and infrastructure.

67 Extended financial regulations have been implemented by other top 5 leagues: e.g., the Salary Cost Management of the EPL along with the Owners' and Director' Test (Morrow, 2016), the FFP of the Italian Football Federation/FICG (FICG, 2016) and the cost controls of the Spanish La Liga (La Liga, 2015).

2.6.1.3 Implications for EPFCs

Club Business Models: Positioning and Strategic Outlook

Clubs with a *subsidy/benefactor-reliant business model* primarily operate in second- and third-tier leagues. These leagues have lesser commercial opportunities than the top markets (UEFA, 2018a) and are in many cases confronted with economic insufficiencies. Consequently, these clubs operate with lower and inconsistent financial income and expenses, further aggravated by fluctuating exchange rates (e.g., in Turkey or Russia) since expense drivers are predominantly denominated in foreign currency (e.g., employee benefit expenses), but income streams mostly in local currency (e.g., gate receipts). Despite the consequent importance of sustainable and diversified strategic components, the results outline that clubs operating with an *MBEN* are indeed short-term-oriented by, firstly, relying on future benefactor support, and secondly, neglecting the strategic importance of *YTH* as core/ sustainable component. While the implementation of effective YD operations cannot be confirmed, the clubs indeed operate as talent buyers. In conclusion, the results confirm the soft-budget constraint syndrome, i.e., that managers expect and rely on benefactors to cover clubs' deficits *ex post* and hence operate with limited bailout expectations (Franck, 2016; Storm & Nielsen, 2012). Instead of leveraging external financial subsidiaries as knock-on financing for long-term benefit, e.g., to establish effective YD structures (cf., UEFA CLFFPR, 2015), resources are ineffectively used for short-term targets (Nielsen & Storm, 2017). Due to the confirmed dependency on benefactors and short-term orientation, this business model is, in fact, associated with a significant risk of financial instability in the future.

The *prize-money-reliant business model*, i.e., aiming for repeated UEL/UCL qualification and the consequent financial returns, is primarily exploited in the *LEA610*, secondarily in the *LEA1131*. Despite tendencies of concentration/ossification in these domestic leagues,[68] e.g., in Turkey, the Netherlands and Belgium, this model bears a significant risk of non-qualification for the lucrative competition rounds.[69] This results in short-term thinking –

68 According to the UEFA club coefficient ranking 2012-18 (i.e., ranking based on the results of clubs competing in UCL/UEL between seasons 2012/13 and 2017/18) (UEFA, 2017f), the following numbers of teams have qualified for the UCL group stage in the last five years: Russia (3), Turkey (2), Netherlands (2), Belgium (2), Portugal (4).

69 Qualification for the UCL group stage (competition cycle 2015 to 2018): EUR 12.7 million participation bonus plus performance-related bonuses and participation in the broadcasting market pool (UEFA, 2017a).

which is confirmed by the results: strategically, these clubs neglect the importance of *YTH* as core/sustainable strategic component. In terms of operations, effective TM structures are not confirmed (negative but insignificant coefficients), while the clubs operate as talent buyers. Such short-term thinking remains financially very risky due to (over-)spending on talent in the bet for prize money (Dietl *et al.*, 2008), i.e., the financially unsustainable way of expected sporting success serving financial success (Huwer, 2013). Interestingly, the strategic importance of *PRI* is found to be aligned to the strategic importance of *COM*. International appearances are seemingly monetized by commercial activities, further increasing clubs' levels of diversification. Overall, as the results suggest, these clubs face upside potential in both *COM* and the core/sustainable *YTH* operations. The clubs' current and (as the results indicate, future) single bet on (purchased) sporting success illustrates a significant risk. Approaches to reduce the reliance on prize money are consequently key to securing the clubs' viability in the medium and long term.

Clubs with a business model relying on *player trading* are prevalent in the *LEA610*. Clubs from, e.g., Belgium, the Netherlands and Portugal, are well known as talent exporters (CIES, 2017). The results confirm that the *MTRA* is indeed affiliated to positive player trading results. While frequent transfer surpluses are an important positive feature, reliance on profits also bears significant business/sporting risks. The results, however, indicate that related risks are not hedged by other strategic components. Such insignificant affiliations – notably including the strategic importance of *TRA* – illustrate the non-homogenous strategic focus (i.e., a clear strategic focus on player trading would have constituted a future one-sidedness). More critical is certainly the fact that *MTRA* clubs could not be confirmed to operate effective YD operations. Considering that this business model is implemented as a market countervailing measure, and further that the results confirm the strategic importance of *TRA* and *YTH* to be interlinked, the latter underlines a significant future risk for player-trading-reliant clubs.

The *commercially-focused business model* is prevalent in the *LEA5*. Those clubs benefit from commercially solvent domestic (and increasingly international) markets (UEFA, 2018a) plus accelerated growth due to business diversification (Schmidt & Holzmayer, forthcoming). Unsustainable strategy components are consequently indeed less relevant. The financial advantage furthermore leads to a self-reinforcing effect on professionalization (e.g., Szymanski & Kuypers, 1999; Franck, 2010): so outline the results that the clubs develop top talents. Nonetheless, they integrate fewer home-grown talents on their first teams, indicating

potential for effectiveness improvements due to high attrition rates (Güllich, 2014; Kassis *et al.*, 2017; Dowling *et al.*, 2018). While it is acknowledged that the sporting entry barrier is comparatively higher in clubs from top leagues, the inefficiency of investments, nevertheless, ought to be addressed. In conclusion, EPFCs with an *MCOM* are well positioned: in terms of profitability, commercial markets indicate a positive trend (UEFA, 2018a), while spending patterns are limited due to domestic or international (soft) budget restrictions (e.g., FFP). Sustainability is further ensured via the existence of sustainable/core TM operations.

The *youth-development-focused business model* is predominantly implemented in the *LEA1131,* i.e., confirmed as financially disadvantaged and internationally less competitive leagues. The results subsequently underline the importance of YD as a countervailing measure in both financial as well as sporting terms: in financial terms, clubs that operate with a *MYTH* attribute a lower importance to *COM*. Market inefficiencies are, consequently, deemed less severe. Furthermore, these clubs generate continuous transfer surpluses, illustrating upside potential due to inflated transfer prices (UEFA, 2018a). From a sporting perspective, *MYTH* clubs develop, integrate and provide more playing time to talents overall, while developing fewer CTPs that now perform in *LEA5* – i.e., indicating the necessity to strengthen the quality of YD structures. Overall, the results confirm that YD indeed defines the DNA of the respective clubs (Nesti & Sulley, 2014) since the implemented development operations and management practices provide a long-term benefit and guarantee the clubs' sporting continuity and financial viability. Similarly to other models, clubs would benefit from more diversified economic drivers. Nevertheless, under (prevalent) disadvantaged market conditions, clubs operating with *MYTH* are well positioned for the future due to the sporting and financial countervailing effects of YD.

Core Improvement Lever: Youth Development

While the outlined opportunities and risks of the various business models and strategic components differ, the results confirm that YD/TM is of ubiquitous relevance: i.e. *YTH* (core/sustainable strategic component) is evaluated as an essential strategic component throughout all league clusters, while effective TM operations constitute a measure to countervail disadvantages of the internal and external business context. In concise summary of the relevance of TM for EPFCs:

Clubs operating under unsustainable business models of *benefactor and price-money reliance* bear a considerable risk of entering a downward spiral due the external dependency (investor versus competitors). Upside potential is not provided and a manifestation of the (uncompetitive) status quo is likely. According to the results, the lowered prospective importance of YD, operating as talent buyers, and (seemingly) ineffective YD structures constitute entry points for improvement. Effective YD would both increase clubs' autonomy and reveal upside potential.

Focusing on clubs with a *sustainable (commercial) business model*, revenue-enhancing options, including internationalization via geographic diversification (Schmidt & Holzmayer, forthcoming), remain key. Considering the inflation of transfer prices (UEFA, 2018a) along with potential egalitarian measures affecting their financing, alternative strategies remain vital to secure competitiveness with direct (national and international) peers. The results shift the focus on the low number of CTPs fielded and the consequent inefficient realization of YD investments along with unrealized potential for cost-savings or transfer-profit generation.

For the remaining two core business models, the (*unsustainable) player-trading-reliant* and the (*sustainable) youth-development-focused*, YD is intrinsically of utmost importance. Entry points are provided by the revealed necessity to strengthen YD effectiveness.

Supportive Measures

In all cases, EPFCs would benefit from (1) developmental support to enhance YD standards, and (2) improved framework conditions via regulatory amendments:

Firstly, domestic FAs and leagues have to support the professionalization and optimization of YEAs (i.e., EPFCs' pivotal talent pools) by implementing minimum standards, e.g., required via the domestic and international CL regulations. Complementarily, the certification of academies by external experts would provide guidance for optimization. This is arguably of utmost importance considering the discrepancy between clubs' positive evaluation of their own TM structures (ECA, 2018b) despite the confirmed ineffectiveness of YEAs. Such certification is deemed as one key driver for the herein confirmed qualitative supremacy of *LEA5* in top-talent YD (e.g., De Knop *et al.*, 2004; Van Hoecke *et al.*, 2008).

Secondly, the pressure on the "transfer market" of minors, fortified by player hoarding along with utilizing minors as pure (financial) options, is to be addressed via: (1) the

implementation of harmonized squad-size limits for all European and domestic competitions; (2) a higher quota on CTPs combined with a narrow definition of CTPs in order to reduce the benefits of early transfers;[70] (3) (strict) regulation of multiple-club investors to limit player hoarding and to secure the integrity of competitions;[71] (4) an increase of the marginal (and evidently mismatched) amount of training compensation and solidarity contributions paid.[72]

2.6.2 Academic Implications

Abstracting from the sports-specifics and predominant conclusions for EPFCs and its stakeholders, this research article underlines the relevance of TM overall. Such confirmation within a multinational and cross-organizational context extends the single-site practitioner reports (e.g., Doh, 2015; Sparrow & Makram, 2015) and contributes to the substantiation of the TM literature (Sparrow *et al.*, 2014a).

As a first insight, the contextualization of TM (e.g., Sparrow *et al.*, 2014b; Collings *et al.*, 2017) signifies already – and in line with its postulated relevance – that TM could be important to position for an advantageous organizational outlook. Subsequent (descriptive and correlation) results on the TM to organizational strategy link (e.g., Sparrow *et al.*, 2014b; McDonnell *et al.*, 2017), in fact, confirm such a postulation: TM is not only the prevalent business model for organizations that need to countervail market disadvantages, but also deemed ubiquitously essential as a strategic component. Complementarily, TM is indeed confirmed as key lever to improve the outlook of various business models.

70 Under the current definition (e.g., Art. 43.04 of the UCL Regulations 2015-18 Cycle (UEFA, 2017e)), a player who is transferred at the age of 18 (or earlier in case of a domestic/European transfer or in circumvention of FIFA RSTP (2018)), and further trained at the new club for 36 months, qualifies as a CTP. Without a change in definition, the implementation of higher CTP quotas could have negative side effects, e.g., increased pressure on the transfer market of minors. A fully monitored restriction on the transfer of minors by FIFA as well as further restrictions regulating related money flows and agent relationships is inevitable.

71 As previously indicated, the term "multiple-club investors" is deliberately used since influence on more than one club can be exerted based on ownership (with respective voting rights) or based on decisive influence, e.g., without ownership but due to governance or financial considerations.

72 Maximum recruitment costs amount to EUR 90,000 (i.e., transfer to a UEFA category I club) in accordance with the RSTP (FIFA RSTP, 2018) and training costs categorization by FIFA (FIFA, 2017).

2.6.3 Limitations and Future Directions

While this paper contributes to sports strategy research by scrutinizing club business models and concomitant strategic components, some limitations point out future research directions:

First, the study focused on five core and generalizable business models that are defined by economic drivers (ECA, 2015). Future articles could modify the definition of business models, e.g., by differentiating commercial models (Schmidt & Holzmayer, forthcoming), and consequently conduct a more granular analysis of specific models/strategies.

Second, an extension of the sample size would facilitate a statistical/methodological advancement (including the confirmation/extension of outlined bivariate results), enable a disaggregated analysis of different club clusters, and reduce the risk of biases on the sample or strategy evaluations (although both risks were mitigated by collaborating with UEFA as authorized requestor and having checks performed by its expert panel).

Thirdly, despite various benefits of using sports as research field for strategy and TM research (cf., Kahn, 2000), the particularities of EPFCs' business models limit the generalizability of strategy specific insights. Nevertheless, focusing on the affirmation of the relevance of TM (herein for EPFCs and its business models), future studies on other business contexts and business models/strategies could confirm or neglect the TM specific findings.

2.7 CONCLUSION

In this paper, the current business context of European football has been outlined and the aligned business models of EPFCs scrutinized for their future prospects – specifically, the prevalence of effective YD structures and the affiliated strategic components – on a multinational and cross-organizational dataset of 110 elite and non-elite EPFCs.

Concluding on the business context, the results affirm market failures that require regulatory intervention, *inter alia,* to address financial sustainability (e.g., via FFP), financial polarization (e.g., via egalitarian measures) and sporting divides (e.g., via measures limiting player hoarding). EPFCs further have to respond with sustainable business models that incorporate growth options in order to secure both competitiveness and long-term viability.

In specific sports-strategy terms, *YD* is in this paper confirmed as a sustainable business model (securing the longevity of clubs) and as an essential strategy component. It further constitutes the key improvement lever for several business models: clubs operating under the unsustainable models of *benefactor and price-money reliance* are indeed short-term focused and risk their financial viability. The lower valued strategic importance of YD along with operating as talent buyers, however, indicate entry points to establish sustainable operations. More sustainable *per se* are *commercially focused clubs*, prevalent in the top leagues. Financial supremacy is converted into quality leadership, while the low number of CTPs fielded signals an inefficient usage of investments (plus unrealized potential for cost savings or transfer-profit generation) – which is essential due to the arms race inter (elite) clubs, inflated transfer prices and potential regulatory/egalitarian interventions. Further, business models with a countervailing function, e.g., *player trading (core/unsustainable)* or *YD (*core/ *sustainable)*, are implemented in non-top leagues. Yet, despite its relevance, the effectiveness of YD operations ought to be strengthened. Overall, EPFCs operating with sustainable business models focusing on *youth* and *commercial activities* are best positioned in their prevalent (but diverging) business contexts. YD is ubiquitously valued as an essential strategy component and implemented as a measure to countervail direct peers' competitive advantage.

In conclusion, within the context of European football, TM is indeed of utmost relevance for EPFCs: *"Developing professional football players is a clear priority and focus for all clubs, irrespectively of their philosophy, country or size"* (Centenaro, ECA General Secretary, in ECA, 2012, p. 8).

Overall, this research article on club business models with a focus on TM-strategy interdependencies sets the basis for future prosperous TM research. With a managerial focus, the relevance of TM is to be addressed in other challenging business environments. Such TM contextualization combined with organizational strategy research will remain one of the key tasks for further research endeavors in order to validate TM as a core management concern in practice, and consequently for management literature (e.g., McDonnell *et al.*, 2017). Subsequently, given its credited centrality to organizations, the value and effectiveness of TM is to be addressed. Sport will thereby remain an interesting research object – especially considering its methodological advantages – with extended research on this intersection constituting a win-win for sports management and TM literature.

3. DOES TALENT MANAGEMENT CREATE ORGANIZATIONAL VALUE?

EMPIRICAL EVIDENCE FROM THE TALENT POOLS OF EUROPEAN PROFESSIONAL FOOTBALL CLUBS[73]

[ARTICLE 2]

73 Unpublished manuscript

3.1 INTRODUCTION

Practitioners and academics consider one particular area to be a source of competitive advantage in various industries: the management of talent (Lewis & Heckman, 2006; Collings & Mellahi, 2009; Tarique & Schuler, 2010; Meyers & van Woerkom, 2014; PwC, 2012, 2014a, 2017). Such premised importance of talents as core but limited resource (e.g., Chambers *et al.*, 1998; Tarique & Schuler, 2010) emphasizes TM as a priority and key challenge for organizations (McDonnell, 2011) – resulting in significant scholarly interest over the last decade (e.g., Cappelli & Keller, 2017; McDonnell *et al.*, 2017; Gallardo-Gallardo *et al.*, 2015).

Strikingly, however, despite a certain maturation of the TM literature (Gallardo-Gallardo *et al.*, 2015; Sparrow & Makram, 2015) along with the increasing consensus on the predominant resource-based view (Collings & Mellahi, 2013; Gallardo-Gallardo *et al.*, 2015), empirical evidence in support of its central tenet – i.e., that TM creates organizational value – remains scarce (Bethke-Langenegger *et al.*, 2011; Sparrow & Makram, 2015; McDonnell *et al.*, 2017). Such a postulation is problematic both in academia and in practice, considering that affiliated concepts of workforce differentiation and disproportionate investments in talents (Huselid & Becker, 2011) are said to be legitimized by talents' contribution to company performance (Axelrod, Handfield-Jones, & Welsh, 2001; Guthridge, Komm, & Lawson, 2006).

It is acknowledged that the scarcity of empirical evidence is, in particular, due to (1) the lack of a direct focus on talents and pivotal talent pools (e.g., Thunnissen *et al.*, 2013a; McDonnell *et al.*, 2017), (2) the difficulty of identifying pivotal employees (e.g., Sparrow *et al.*, 2014b), (3) the challenge of evaluating and measuring successful TM (e.g., Bethke-Langenegger *et al.*, 2011; Cappelli & Keller, 2014), and (4) a narrow conceptualization of organizational performance (e.g., Collings, 2014; Cascio & Boudreau, 2016). Notwithstanding these methodological difficulties, "answering questions about value is a core challenge that must be addressed for the field to develop further" (Sparrow & Makram, 2015, p. 250).

In order to advance the area of TM research, in the present article I scrutinize *whether successful TM creates organizational value.* Specifically, the current versus long-term value and economic versus non-economic value is examined, further taking business characteristics and market externalities into account. By using professional sports, and in particular the

pivotal talent pools of EPFCs as a labor market laboratory (cf., Kahn, 2000), I overcome core methodological limitations of previous studies and extend the TM research field by means of a multidimensional analysis of its central tenet.

3.2 DATA AND METHODOLOGY

3.2.1 Research Object

The YEA of EPFCs represent an opportune setting to address labor market questions, in particular on TM. Firstly, YEAs are pivotal talent pools and hence overcome a lack of direct focus on pivotal employees (Boudreau & Ramstad, 2006, 2007; Cascio & Boudreau, 2016). Secondly, successful TM is clearly defined and quantifiable with objective measures (e.g., CIES, 2018; Poli, Ravenel, & Besson, 2015). Thirdly, multiple – i.e., economic and non-economic – organizational performance indicators are obtainable and address the criticism of a too narrow conceptualization of organizational performance (Collings, 2014). Fourthly, YEAs represent a controlled setting given that all talents share a homogenous job profile with the overall aim of advancing to professional football (Schmidt *et al.*, 2017). Fifthly, the object is accepted in academia and has been used by much previous research (e.g., Merkel *et al.*, 2017; Kassis *et al.*, 2017). Complementarily, and in regard to the context of EPFCs, football clubs/entities share central characteristics with business entities (Keidel, 1984), such as "their mutual concern for competing externally, cooperating internally, managing human resources strategically, and developing appropriate systems and structures" (Berman *et al.*, 2002, p. 17), which enables the generalization of results.

3.2.2 Data and Measures

The dataset contains organizational performance and TM indicators for 110 top-division EPFCs from 24 European countries. It is further complemented with contextual indicators on the organizational as well as the market environment.[74]

74 The dataset contains top-division clubs from the following countries: Austria, Belgium, Belarus, Bulgaria, Croatia, Denmark, England, Finland, France, Germany, Hungary, Italy, Netherlands, Norway, Portugal, Russia, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the Ukraine. Data were collected

3.2.2.1 Measures of Organizational TM Effectiveness

Talents can create organizational value (Sparrow & Makram, 2015) upon successfully mastering the TM cycle (Schiemann, 2014) and holding a pivotal position (Collings & Mellahi, 2009; Boudreau & Ramstad, 2005). However, the measurement of the corresponding TM success/effectiveness is problematic, both in practice and academia (e.g., ESCP, 2016; Becker, Huselid, & Ulrich, 2001; Anderson, 2008). Addressing this central problem, the dataset of EPFCs' pivotal talent pools incorporates an objective effectiveness measure, i.e., the number of successfully developed talents that hold a pivotal position in the organization (internally) or in the industry (externally). In football specific terms, the number of so-called CTPs, i.e., internally developed players that reach the status of professional players, represent a clearly-defined and objective measure for organizational TM effectiveness while securing comparable framework conditions despite the multi-organizational/national context.[75]

3.2.2.2 Measures of Organizational Performance

In order to incorporate a pluralist understanding of organizational outcomes, I build upon the differentiation between *economic versus non-economic value* (Collings, 2014; Thunnissen, Boselie, & Fruytier, 2013b). The prevalent focus on economic value (Axelrod *et al.*, 2001; Joyce, Herreman, & Kelly, 2007; Guthridge, Komm, & Lawson, 2008; DiRomualdo, Joyce, & Bression, 2009) is therefore complemented by non-economic measures, e.g., organizational and human resource outcomes (Bethke-Langenegger *et al.*, 2011; Stahl *et al.*, 2007).

In an extension of this multidimensional categorization by the *nature of value*, i.e., *economic versus non-economic*, I add a second dimension: the *term of value*, i.e., *current versus non-*

in collaboration with UEFA on YEAs as part of a research project conducted between January and August 2017, from the UEFA Benchmarking Reports (UEFA, 2016a; UEFA, 2018a), from the International Centre for Sports Studies, and from the website transfermarkt.de. Experts from UEFA's Financial Sustainability & Research Division have further complemented the fully anonymized dataset with evaluations on club reputation and a categorization of economic indicators. These experts have the most comprehensive overview of and unparalleled expertise in European club football.

75 In football, successfully developed talents are called CTPs, i.e., professional players who, between the age of 15 and 21 have been registered with the training club for a period of three entire seasons or of 36 months (FIFA RSTP, 2018). Within this study, talents were performing in professional football (herein the Top 31 European leagues) at the assessment stage (season 2016/17). Importantly, due to squad restrictions for domestic competitions, the number of internal pivotal positions per organization is comparable.

current (long-term) value. While current organizational value can be realized by the current internal talent pool, non-current (long-term) value is created by internally developed but either internally or externally employed talents over time. Including a non-current (long-term) perspective follows observations that prevalent measures on other studies, such as stock-market performance, ignore the potential long-term effect of TM (McDonnell *et al.*, 2017). The portfolio of included economic and non-economic, current and non-current performance indicators is consequently categorized as follows:

Figure 3.I: Categorization of Organizational Value by Nature and Term

		NATURE OF VALUE	
		ECONOMIC	NON-ECONOMIC
TERM OF VALUE	CURRENT VALUE	[1] USE VALUE (MONETARY)	[2] USE VALUE (NON-MONETARY) [3] WORKFORCE STABILITY [4] WORFORCE EXPERIENCE
	NON-CURRENT VALUE	[5] EXCHANGE VALUE [6] FINANCIAL VIABILITY	[7] REPUTATION/BRANDING [8] SOCIAL ACCEPTANCE

Source: own illustration

The current internal talent pool is expected to create *current organizational value*, i.e., [1] monetary (economic) and [2] non-monetary (non-economic) use value. Talents are thereby deployed internally (Bowman & Ambrosini, 2000). Economic use value is reflected as the cost saving by promoting internally developed talents (versus externally hired pivotal employees), while non-economic use value is, linked to organizational succession planning, talents' performance share in pivotal positions. Further non-economic value, organizational [3] workforce stability and [4] workforce experience, might be limited due to an early integration of talents on senior level.

In the longer-term focus, former and current members of the talent pool are anticipated to create *non-current organizational value* over time, e.g., [5] economic exchange value, such as proceeds generated from the sale of talents' employment rights, or [6] financial sustainability/viability, e.g., linked to total economic benefits. Long-term/non-economic value comprises [7] reputation gains, i.e., positive employer branding as a talent developer (e.g., Edwards, 2017), and [8] social acceptance/legitimacy (Deephouse & Carter, 2005).

3.2.3 Methodology and Models

Using this unique dataset, OLS and probit models[76] are estimated to analyze whether TM generates organizational value. The model specifications are as follows, with *Model 1* on the sole TM/value effect and *Model 2* plus *Model 3* adding organizational and contextual control factors respectively:

$$\begin{aligned}(1)\ (\text{ORG VALUE}) \quad = \ & \beta_0 + \beta_1\ (\text{N})\text{CSTM} && \textit{(Model 1)}\\ & + \beta_2\ \text{OBMTM} + \beta_3\ \text{OPERF} && \textit{(Model 2)}\\ & + \beta_4\ \textit{MSIZE} + \beta_5\ \text{MTMAC} + \varepsilon && \textit{(Model 3)},\end{aligned}$$

where the *organizational value (ORG VALUE)*, the dependent variable (herein continuous), is reflected as: [1] CEUV or monetary use value (current/economic), i.e., operationalized as the organization's personnel cost level, [2] CNUV or non-monetary use value (current/non-economic), i.e., the sum of talents' employment time (performance) on the first team, [3] CNWS or workforce stability (current/non-economic), i.e., considered by the average contractual employment duration on the first team, as well as by [4] CNEX or workforce experience, i.e., using average squad age as a proxy; [5] LEEV or exchange value (non-current/economic), i.e., clubs' player trading results in the last five years; and [8] LNSO or social acceptance of the organization (non-current/non-economic), i.e., match attendance premium compared with the club's domestic competitors; and

$$\begin{aligned}(2)\ \Pr(\text{ORG VALUE} = 1) = \ & \Phi\ (\beta_0 + \beta_1\ (\text{N})\text{CSTM} && \textit{(Model 1)}\\ & + \beta_2\ \textit{OBMTM} + \beta_3\ \text{OPERF} && \textit{(Model 2)}\\ & + \beta_4\ \textit{MSIZE} + \beta_5\ \text{MTMAC}) && \textit{(Model 3)},\end{aligned}$$

76 Both OLS and Probit models were estimated due to differing scale levels of organizational value measures (see Table 3.I).

where the *organizational value (ORG VALUE)*, the dependent variable (herein binary), is defined as [6] LEFI or financial sustainability (non-current/economic), i.e., reflecting whether a club was under investigation or sanctioned by an independent control body for not operating financially sustainable;[77] [7] LNRP or reputation (non-current/non-economic), i.e., the organization's reputation as a talent developer.

The central independent variable is TM success, differentiated by *current versus non-current TM success*: current TM success (CSTM) is operationalized as the number of talents that were trained internally and are currently performing on an organization's (internal) senior level (first team); non-current TM success (NCSTM), meanwhile, is measured by the number of talents that were trained internally and are performing at organizational senior level overall, internally and for another organization, at assessment period. Further, control factors at an organizational level account for the potential business model focusing on TM (OBMTM), as evaluated and classified by external experts,[78] and its core performance (OPERF), i.e., operationalized by a coefficient reflecting the (sporting) results of the club/organization. Market environment controls are additionally integrated, in particular, the financial market size (MSIZE), i.e., operationalized by the organization's league classification,[79] as well as the markets' TM acceptance (MTMAC), i.e., the share of employment time that organizations on the market provide to talents.

The following Table 3.I provides an overview of the measures and their operationalization in the football context:

77 Within European football, EPFCs have to fulfil licensing and financial monitoring standards, e.g., UEFA FFP. Within human resource literature (e.g., Collings, 2014), FFP has been highlighted as a regulatory measure to ensure sustainability and financial viability from a long-term organizational perspective. Given that investigations and sanctions of clubs by the control organ, i.e., the CFCB, are public, it represents an objective measure of whether an organization operates in a financially sustainable/viable manner.

78 As previously outlined, experts from UEFA's Financial Sustainability & Research Division: Mr. Rodriguez (UEFA Head of Financial Monitoring and Compliance), Mr. Rasmussen (UEFA Head of Financial Fair Play), and Mr. Bernardi (UEFA Club Licensing Manager).

79 The common league classification in European football, i.e., top 5, top 10, and top 31 first-division leagues (see Table 3.1), is based on the aggregated revenues by league (herein for FY2015 and FY2016 (UEFA, 2017b, 2018a), and hence represents a financial proxy.

Table 3.I: Variable Definition in Business Context, Operationalization, Rationale

Variable	Business Context	Operationalization/Measurement	Rationale
Dependent variables			
Current/economic value			
CEUV [1]	Monetary use value (cost saving)	*EPFC's labor cost level* Expert cluster (MEUR): 1 <15; 2 15-60; 3 60-120; 4 120-240; 5 >240	TM is allegedly legitimized by economic value, whereas talents' costs affect value (Collings, 2014).
Current/non-economic value			
CNUV [2]	Non-monetary use value (performance)	*Sum of talents' employment time* by EPFC; sum of talents' playing time on EPFC's first team	Internal use (performance) of talents can legitimize TM practices (e.g., Sparrow & Makram, 2015).
CNWS [3]	Workforce stability	*Employment duration in EPFC* Avr. number of seasons in 1st team; weighted by performance; as at 06.2017)	Strategically, TM is an internal pool for succession planning (e.g., Tarique & Schuler, 2010).
CNEX [4]	Workforce experience	*Age of workforce* Average age of EPFC's first squad	Qualities, e.g., experience, that facilitate effective performance (Silzer & Church, 2009).
Non-current/economic value			
LEEV [5]	Exchange value	*EPFC's player trading result* Number of years with positive net transfer result (2012-17)	Monetary amount realized from TM (Sparrow & Makram, 2015); Sport offers an exchange market.
LEFI [6]	Financial viability	*CFCB investigation/sanction* 1 investigation due to unsustainable finances;[80] 0 sustainable (2012-17)	Sustainable performance is a central goal of TM (McDonnell *et al.*, 2017).
Non-current/non-economic value			
LNRP [7]	Reputation/ Employer branding	*Reputation as talent developer* Expert categorization: 1 talent developer; 0 buyer	Positive reputation as talent developer is seen as core organizational challenge in TM (Stahl *et al.*, 2007; Edwards, 2017).
LNSO [8]	Social acceptance (legitimacy)	*Premium stadium attendance (thd.)* Difference club vs. league average home match attendance (2012-17)	Social acceptance should be an organizational target (Boxall & Purcell, 2011).
Independent variables			
Organizational TM success			
CSTM	Current success in TM	*CTP employed by the home EPFC* Number of CTP performing for the home EPFC in season 2016/17	A measure of successful TM (Bethke-Langenegger *et al.*, 2011) and a direct focus on pivotal employees (Cascio & Boudreau, 2016) are required to advance empirical evidence.
NCSTM	Non-current success in TM	*CTP employed by any EPFC* Number of total CTP performing for an EPFC in season 2016/17	

80 See aforementioned details on FFP and its interpretation in human resource literature (e.g., Collings, 2014).

Table 3.I: Variable Definition in Business Context, Operationalization, Rationale

Variable	Business Context	Operationalization/Measurement	Rationale
Controls			
Organizational controls			
OBMTM	Business model: TM focus	*TM-focused business model* UEFA expert evaluation: 1 TM focus; 0 different model	Increased return for organizations with business strategy aligned with TM (Collings, 2014; PwC, 2014).
OPERF	Core performance	*EPFC's core/sporting performance* UEFA club coefficient based on international results 2012-17	Organization's core performance (e.g., sporting results) may impact economic/non-economic output.
Market environment controls			
MSIZE	Market size	*EPFC's domestic league* Categorization by aggr. revenues: 1 Top 5; 2 Top 6-10; 3 Top 11-31[81]	The external environment influences (overall) TM success/ effectiveness (Tarique & Schuler, 2010; Khilji, Tarique, & Schuler, 2015), and has thus to be incorporated in TM research.
MTMAC	TM acceptance	*Share of talents' employment time* by league; average playing time of talents	

3.3 RESULTS

To answer the question of *whether TM creates organizational value*, three (OLS/probit) models have been estimated for eight organizational value indicators: (1) on the sole effect of TM on organizational value indicators; (2) incorporating organizational controls; (3) complemented by contextual/market controls. The results in Tables 3.II (on current TM value) and 3.III (on non-current TM value) confirm that TM indeed generates organizational value, while the differentiation between *current versus non-current* and *economic versus non-economic value* is important:

81 League clusters are defined – in accordance with common industry practice (UEFA, 2018a) – on the basis of aggregated revenues by top-tier leagues for FY2015 and FY2016 (UEFA, 2017b, 2018a): (1) Top 5 leagues: England, Germany, Spain, Italy, France; (2) Top 6-10 leagues: Russia, Turkey, Netherlands, Belgium, Portugal; (3) Top 11-31 leagues: Austria, Belarus, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Finland, Greece, Hungary, Israel, Norway, Poland, Romania, Scotland, Serbia, Slovakia, Slovenia, Sweden, Switzerland, Ukraine.

Table 3.II: Impact of Current TM Success on Economic and Non-Economic Organizational Value

DEPENDENT	**[1] CEUV**			**[2] CNUV**			**[3] CNWS**			**[4] CNEX**		
Current Value	**Economic Use Value**			**Non-Economic Use Value**			**Non-Economic Use Value**			**Non-Economic Use Value**		
	Personnel Cost Level			Talent Performance Share			Workforce Stability			Workforce Experience		
Method	OLS	OLS	OLS	OLS	OLS	OLS	OLS	OLS	OLS	OLS	OLS	OLS
Model	(1)	(2)	(3)	(1)	(2)	(3)	(1)	(2)	(3)	(1)	(2)	(3)
TM Success												
CSTM	**(.103)*** **	**(.049)** **	.013	**2.646*** **	**2.648*** **	**2.613*** **	(.034)	(.002)	(.009)	**(.276)*** **	**(.226)*** **	**(.219)*** **
	.024	*.019*	*.014*	*.187*	*.221*	*.223*	*.023*	*.023*	*.022*	*.038*	*.039*	*.046*
Organizational Factors/Controls												
OBMTM		**(.253)***	**(.215)** **		.306			**(.319)***	**(.329)***		**(.894)** **	**(.961)** **
		.125	*.071*		*1.562*			*.157*	*.152*		*.333*	*.314*
OPERF		**.020*** **	**.015*** **		.008			**.009*** **	**.010*** **		.002	
		.002	*.002*		*.016*			*.002*	*.002*		*.004*	
Market Environment Controls												
MSIZE			**(.546)*** **			(1.114)			(.007)			**.381**†
			.060			*.791*			*.101*			*.201*
MTMAC			**(.021)** **			.147			.013			(.047)
			.008			*.107*			*.014*			*.029*
Constant	**2.592*** **	**1.746*** **	**3.018*** **	(.607)	(.972)	(.560)	**2.948*** **	**2.548*** **	**2.413*** **	**28.466*** **	**28.374*** **	**28.431*** **
Adjusted R2	.1103	.5991	.8051	.7133	.7086	.7163	.0097	.2010	.1935	.2967	.3380	.3659
VIF		1.17	1.43		1.17	1.43		1.17	1.43		1.17	1.41
N Observations	110	110	110	110	110	110	110	110	110	110	110	110

Notes: †p<.1 *p<.05 **p<.01 ***p<.001 (in bold); robust standard errors in italics

Table 3.III: Impact of Non-Current TM Success on Economic and Non-Economic Organizational Value

DEPENDENT	**[5] LEEV**			**[6] LEFI**			**[7] LNRP**			**[8] LNSO**		
Non-Current Value	**Economic Exchange Value**			**Economic Value**			**Non-Economic Value**			**Non-Economic Value**		
	Player Trading Result			Financial Viability			Reputation			Social Acceptance		
Method	OLS	OLS	OLS	Logit	Logit	Logit	Logit	Logit	Logit	OLS	OLS	OLS
Model	(1)	(2)	(3)	(1)	(2)	(3)	(1)	(2)	(3)	(1)	(2)	(3)
TM Success												
NCSTM	**.062*** **	**.054*** **	**.044** **	.033	.040	**.061**†	**.143*** **	**.134*** **	**.189*** **	**.342** **	**.301** **	**.266** **
	.012	*.013*	*.014*	*.026*	*.027*	*.031*	*.030*	*.032*	*.039*	*.124*	*.093*	*.093*
Organizational Factors/Controls												
OBMTM		**.665***	**.682***		(.565)			**.934**†	**1.187**†		(1.210)	
		.311	*.317*		*.475*			*.562*	*.618*		*1.302*	
OPERF		(.006)			**.008**†	.014		.004			**.187*** **	**.206*** **
		.004			*.005*	*.009*		*.006*			*.027*	*.027*
Market Environ-ment Controls												
MSIZE			(.071)			**1.182***			**(1.278)** **			**2.528***
			.170			*.498*			*.431*			*.992*
MTMAC			**.056** **			**(.322)*** **			.060			**(.306)** **
			.020			*.073*			*.046*			*.106*
Constant	**1.937*** **	**2.045*** **	**1.209*** **	**(1.669)*** **	**(1.908)*** **	(.392)	**(3.339)*** **	**(3.646)*** **	**(3.020)*** **	(.680)	**(5.584)*** **	**(6.185)***
Adjusted R2	.1652	.2363	.2728							.0798	.4820	.5140
VIF		1.18	1.28								1.18	1.36
BIC				127.631	133.018	99.918	106.522	113.242	107.433			
Correctly classified				76.36%	76.36%	82.73%	77.27%	77.27%	80.91%			
N Observations	110	110	110	110	110	110	110	110	110	110	110	110

Notes: †p<.1 *p<.05 **p<.01 ***p<.001 (in bold); robust standard errors in italics

First and foremost, successful TM within an internal talent pool leads to *current non-economic value*: as expected and plausible, the organizational talent performance share (CNUV) at internal senior level increases with the number of internally promoted talents (Models 2.1-2.3). Promotions into pivotal positions without deploying and involving the talent on senior level tasks would, in fact, be irrelevant promotions and not in line with the definition of "pivotal" positions. The finding hence extends the results of Kassis *et al.* (2017), which suggest a strong relation between talent promotion and involvement: talents are not only promoted due to their involvement at the prior career level (Kassis *et al.*, 2017), but they are further leveraged and fully engaged at their new career level within the pivotal position. Conversely, however, the promotion of internal talents to senior positions leads to the negative current effect of a lower organizational workforce experience at senior level (CNEX) (models 4.1-4.3), aggravated by the negative effect of workforce instability when operating under a TM-focused business model (OBMTM) (models 3.1-3.3) In order to guarantee successful succession planning (Tarique & Schuler, 2010), the negative effects of workforce inexperience (and instability) are consequently to be mitigated.

Focusing on *current economic value* (as confirmed by, *inter alia*, Axelrod *et al.*, 2001; Joyce *et al.*, 2007; Guthridge *et al.*, 2008), intriguingly, a robust positive effect of the internal talent pool is not affirmed at the personnel cost level (CEUV) (models 1.1-1.3). In models 1.1 on the sole effect and 1.2 with organizational controls for club's business model focused on TM (OBMTM) and overall performance (OPERF), current success in TM is found to result in a reduced cost level, i.e., create current positive economic value. However, when controlling for contextual/market factors, the finding cannot be confirmed (non-robust; model 1.3): while an organizational focus on TM (OBMTM) and overall market acceptance of TM (MTMAC) reduces the organizational cost level (CEUV), performing as a top company (OPERF) on a premium market (MSIZE) countervails such effect. This finding indirectly confirms the necessity of (top) talent retention through adequate financial compensation (Cappelli, 2000; O'Boyle & Kroska, 2017). Large-market organizations have the financial means to pay talents at competitive market rates (and to counterbalance potential external offers) in order to retain talents and hence secure their use value in pivotal positions (CNUV).

An economic effect is, however, affirmed when focusing on the *non-current value* of TM*:* successful TM generates exchange value (LEEV) (models 5.1-5.3) over time. This is the case when contractual rights to hire (the internally developed) talents are sold to a competitor, and

such talents subsequently hold pivotal positions outside the (training) organization. While this, at first glance, may seem to be limited to sports-specific markets and employment contracts (i.e., with limited rights of contract termination without just cause (FIFA RSTP, 2018)), exchange value can also be derived in other businesses due to, *inter alia*, payments for lifting the non-compete clauses of talents. Such standard contractual clauses restrict talents from joining direct competitors and consequently secure a (performance or monetary) return-on-investment from TM. By contrast, however – and despite the supported economic LEEV and CEUV in case of operating with a business model focusing on YD – the results do not confirm that successful TM raises the likelihood of operating financially viable (LEFI) (non-robust effect; models 6.1-6.3). While this is unexpected, it is in line with the finding that operating in financially disadvantaged markets (MSIZE) increases the likelihood of being unsustainable. Interlinking both results, it underlines that (1) financial disadvantages (and likelihood of operating unsustainable) are not fully compensated by TM, while (2) TM is used as countervailing measure on smaller markets to secure organizational performance (cf., MTMAC and positive impact on CNUV) (cf., dissertation chapter 2 [Article 1]).[82]

Complementarily, and in line with previous results on the current value, effective TM (NCSTM) indeed also creates *non-current non-economic value*: this article's results confirm a positive (significant and robust) effect on organization's TM reputation (LNRP) (models 7.1-7.3) as well as its external social acceptance (LNSO) (models 8.1-8.3). Such positive reputation as a talent developer is arguably important at several stages of the TM cycle (Schiemann, 2014), for instance, at the beginning to attract and acquire talents and at later stages to retain talents and guide them into internal pivotal positions (e.g., Martin *et al.*, 2005; Edwards, 2017). This is furthermore linked to the positive effect of TM on the organization's social acceptance. While acceptance should be an overall organizational target in its own right (Boxall & Purcell, 2011), it bears chances of increasing the hiring and retention rate of talents in the pivotal talent pool, and, indirectly, of monetizing successful TM by means of comparatively higher commercial opportunities/gains.

82 These findings are in line with the previous, and football specific, conclusions drawn on research article 1: firstly, clubs from smaller, commercially weaker leagues are dependent on YD in order to secure its sporting operations, consequently integrating more CTPs on their first team (cf., CNUV); secondly, the generated transfer income (cf., LEEV) and reduced personnel cost level (cf., OBMTM on CEUV) do not fully compensate financial disadvantages. In the outlined context of European football, this again underlines the importance to both increase talent retention, i.e., limit the transfer of minors, plus to raise the mismatched amount of training compensation (plus contingent transfer fees) in case of a transfer (EC, 2018b).

3.4 CONCLUSION

This article's results, based on a dataset with a direct focus on 110 pivotal talent pools from EPFCs, utilizing objective measures of TM success and multidimensional organizational performance indicators, confirm that *successful TM creates organizational value*.

In terms of *current (non-economic) value*, the increased performance share of talents at senior level (i.e. use value) legitimizes TM practices (Sparrow & Makram, 2015) by ensuring, first and foremost, organizational performance based on continuous (internal) talent succession. The negative current effects on workforce experience (and business model related instability), however, need to be mitigated by countervailing organizational measures. *Economically, current* (i.e., lower personnel cost under a TM-focused business model) and *non-current value* (i.e., exchange value through effective TM) is derived, but not (fully) compensating the financial (market) drawbacks. Furthermore, top companies, have to remunerate internally developed pivotal employees at competitive market rates in order to secure, *inter alia*, the indicated use value, i.e., retention via upwards adapted compensation policies for top talents (O'Boyle & Kroska, 2017). In terms of *non-current (long-term) organizational value*, successful TM creates positive reputational effects for the organization and further increases its social acceptance, i.e., one core organizational challenge (Stahl *et al.*, 2007; Boxall & Purcell, 2011), further increasing concomitant business opportunities. In overall conclusion, TM indeed creates positive current and non-current economic and non-economic organizational value. However, organizations have to assess whether its investments in a pivotal talent pool are legitimized by the (net effect of) organizational value generated.

Admittedly, the relatively small sample size and operationalization of some organizational performance indicators is to be strengthened in further studies in order to address the net economic effect in more detail and to increase the validity and generalizability of the results. Nevertheless, this study significantly contributes to the TM research field threefold: (1) methodologically, by focusing on pivotal talent pools, objective measures of organizational TM success and extended conceptualization of organizational performance; (2) theoretically, by its multidimensional differentiation between current and non-current economic and non-economic organizational value; and, (3) overall academically, by extending the empirical evidence for the field's central tenet that *talent management creates organizational value*.

4. THE IMPACT OF PERSONALITY TRAITS ON TALENTS' PERFORMANCE THROUGH-OUT DEVELOPMENT PHASES:

EVIDENCE FROM A PIVOTAL TALENT POOL IN FOOTBALL[83]

[ARTICLE 3]

83 Unpublished manuscript

4.1 INTRODUCTION

"When I take a look at what the German FA and league has invested in talent development, then the bottom line results in recent years have just not been good enough." (Seifert, 2015)

TM is deemed to be a central component of the recent successes of the national German football team(s), *inter alia*, their winning of the FIFA World Cup in 2014 and the FIFA Confederations Cup and UEFA European U21 Championship in 2017 (e.g., Prinz & Weimar, 2017; Groysberg *et al.*, 2016). Against this background, the above-cited criticism from a high-level official is remarkable.[84] While it could be interpreted as encouragement to not settle for recent success, the significant investments by top-tier German football clubs, i.e., EUR 1.4 billion since 2002 (DFL, 2018b), are indeed called into question by both high attrition rates of talents (e.g., Güllich, 2014; Kassis *et al.*, 2017; Schmidt *et al.*, 2017) and low employment rates of CTPs (e.g., Poli *et al.*, 2015; CIES, 2018).[85] This example from the sports context explicitly highlights a central but often disregarded concern: i.e., the *ineffectiveness of TM*.

In order to enhance organizational TM effectiveness, the identification of HC components that drive talents' career success is fundamental (e.g., McDonnell *et al.*, 2017), given that the individual talent mediates between TM practices and organizational performance (Collings & Mellahi, 2009; Minbashian, 2017). In that respect, HC literature on cognitive skills, knowledge and abilities (e.g., Schultz, 1961; Becker, 1962) is complemented more recently (again) with a focus on personality traits (e.g., Barrick, Mount, & Judge, 2001; Heckman, Stixrud, & Urzua, 2006; Borghans *et al.*, 2008; Cobb-Clark & Schurer, 2012).

Research confirms personality traits as a relevant HC component (Elkins, Kassenboehmer, & Schurer, 2017), providing evidence of the productivity impact on the labor market (see Almlund *et al.*, 2011 for an overview). While it has been argued that personality is highly stable (Cobb-Clark & Schurer, 2012; Heineck & Anger, 2010), its development across maturation and due to environmental characteristics has been outlined more recently (e.g., Specht, 2017; Hill & Edmonds, 2017; Bleidorn & Schwaba, 2017). Concomitant discussions, for instance, on the period of adolescence and emerging adulthood, remain controversial:

84 Mr. Seifert is, *inter alia*, the Chief Executive Officer of the DFL and Vice President of the DFB.

85 Employment rate, i.e., the percentage of domestic league minutes played by CTPs for their home clubs. Within recent seasons, the employment rate has ranged between 12 and 14% (Poli *et al.*, 2015; CIES, 2018).

changeable traits (e.g., Roberts & DelVecchio, 2000; Hopwood *et al.*, 2011; Bleidorn *et al.*, 2013) are seen as a necessary (Lester *et al.*, 2011; Avolio & Vogelgesang, 2011) part of a "self-reinforcing process" (Murphy & Johnson, 2011, p. 460) in order to transition into adult roles (Orth & Robins, 2014; Bleidorn, 2015). Others oppose that personality, even in adolescence, remains stable (e.g., Elkins *et al.*, 2017).

Evidence for the varying nature of talents' personality traits (e.g. between development phases) and their impact on performance in adolescence is limited (Bleidorn, 2015). Given that developmental tasks and challenges are said to drive personality development (Specht, 2017), the lack of analysis focusing directly on talent pools (Cascio & Boudreau, 2016; McDonnell *et al.*, 2017) – in which segmented talents are systematically developed and arguably confronted with daily development challenges – is particularly noticeable.

This paper contributes to the concomitant TM research gap on "[…] what determines high performance?" (McDonnell *et al.*, 2017, p. 117) in order to strengthen organizational TM effectiveness. Professional sport, and specifically the YEA of a professional German football club, is utilized as labor market laboratory (cf., Kahn, 2000). Specifically, I scrutinize (1) the level/variance of personality traits inter talent development [TD] phases, and (2) the impact of those traits on regular (intra peer group) and superior (beyond peer group) performance. Latter differentiation further targets (3) the research domain of the proclaimed small elite, so called "star talents" (e.g., Sparrow & Makram, 2015). Controls are further incorporated, *inter alia*, for the job-specific skill level. Addressing these gaps in organizational TM within the setup of pivotal talent pools constitutes a methodological (e.g., Cascio & Boudreau, 2016) and theoretical (McDonnell *et al.*, 2017; Specht, 2017) advancement of the TM literature. The remainder of this paper is structured as follows: in section 2, literature on personality traits, their variance between development phases and their impact on performance is outlined and hypotheses are derived; section 3 covers the research setup and section 4 the data and methodology; in section 5, results are presented, which are discussed in section 6.

4.2 THEORETICAL FOUNDATION AND HYPOTHESES

4.2.1 Characteristics of a Pivotal Talent Pool

Following talent segmentation, pivotal talent pools incorporate "high-performing and high potential incumbents (…) that contribute to an organization's sustainable competitive advantage" (Collings & Mellahi, 2009, p. 306). All talents face similar circumstances, *inter alia*, being confronted with the decision of investing simultaneously in general versus specific HC (Gervais, Livshits, & Meh, 2008), whereby investments in specific HC are more risky but affiliated to higher expected returns (Merkel *et al.*, 2017; Schmidt *et al.*, 2017).[86] The research request to focus on pivotal talent pools (e.g., Cascio & Boudreau, 2016) is derived from its specificities: talent pools offer a highly competitive context in which talents strive for common but also mutually exclusive goals (Schmidt *et al.*, 2017). Thereby, talents have to perform and advance in sequential TD phases – while, occasionally, some perform at a higher development level than their (age-based) peers, i.e., talents with superior performance. In any case, talents have to repeatedly assert their position within a competitive up-or-out system (Ghosh & Waldman, 2010) – arguably an interesting context in which to analyze both the variance and the impact of personality inter development phases.

4.2.2 Personality Traits and their Hypothesized Impact on Talents' Performance

The five-factor framework, incorporating the dimensions of openness to experience, conscientiousness, extraversion, agreeableness and neuroticism, serves as a widely accepted categorization of personality (Goldberg, 1992, 1993; McCrae & Costa, 1999). The model has been validated in several studies as being a reliable operationalization of personality for the analysis of labor performance (e.g., Barrick & Mount, 1991). Since this categorization is equally valid for research with a focus on adolescence and emerging adulthood (Hill & Edmonds, 2017; Bleidorn & Schwaba, 2017), it serves as a basis for the analysis of talents' personality traits and their impact on talents' performance.

86 As a brief explanation of the risk versus return for CTPs in football (e.g., Schmidt *et al.*, 2017; Prinz & Weimar, 2017): talents face the trade-off between investing in general vs. (football) specific HC during their training in highly competitive YEAs. While the (financial) return on achieving professional status is significant, only a low percentage of CPTs are offered contracts as professional players.

4.2.2.1 *Conscientiousness*

Conscientious individuals are ambitious (Goldberg, 1993) and achievement-oriented (Costa & McCrae, 1992). Such aspirations lead to a high degree of self-control, organization and competence (Barrick & Mount, 1993; McCrae & Costa, 1999).

Level/variance inter development phases: During adolescence, conscientiousness is developed as part of the maturation process (Hogan & Roberts, 2004). Partially due to increased understanding of the return adolescents gain from investments in their future (Hill & Jackson, 2016), research has demonstrated an increased goal commitment (Crone & Dahl, 2012) and overall positive development of this trait throughout adolescence and emerging adulthood (Hill & Edmonds, 2017; Bleidorn & Schwaba, 2017). Applied to a pivotal talent pool and consequently to a pre-selection of "high-performing and high-potential incumbents" (Collings & Mellahi, 2009, p. 306), significant variance in the level of talents' conscientiousness between TD phases is, however, not likely for three reasons: firstly, taking into account the specific occupational demand of a talent pool (Specht, 2017), conscientiousness is anticipated to be prerequisite for selection into such a pool; secondly, all talents benefit from the same advanced educational and development context that is assumed to play a key role in conscientiousness development (Hill & Edmonds, 2017); thirdly, peer effects are anticipated to lead to group assimilation (Finn, Zimmermann, & Neyer, 2017). Talents are therefore expected to be homogenous on conscientiousness.

H1.1: Talents' level of conscientiousness is (relatively) stable inter talent development phases.

Impact on performance: Conscientiousness is positively related to job performance (Barrick & Mount, 1991; Ones & Viswesvaran, 1997), which is further facilitated by autonomy and goal-setting (Barrick, Mount, & Strauss, 1993) as well as environments requiring self-reliance or confrontations with unpleasant people (e.g., from a different perspective, competitors) (Judge & Zapata, 2015). Specifically focusing on adolescence and early development stages, conscientiousness leads to greater academic effort (Corker, Oswald, & Donnellan, 2012; Trautwein *et al.*, 2009) and performance (Noftle & Robins, 2007). Pivotal talent pools match the aforementioned environmental conditions, i.e., necessity of self-reliance and ability to cope with competitive situations while striving for common (organizational) but also

mutually exclusive (individual) goals. I therefore hypothesize a positive impact of conscientiousness on both overall and superior performance. A difference between overall versus superior seems unlikely due to the expectation of conscientiousness being a prerequisite for selection into a pivotal talent pool overall.

H1.2: Enhanced conscientiousness fosters talent's (a) overall performance and (b) superior performance throughout all talent development phases.

4.2.2.2 *Emotional Stability*

Neuroticism – the antonym of emotional stability – describes the tendency of individuals to experience distress, emotionality, worry, nervousness, insecurity and tension (John, Naumann, & Soto, 2008). Neurotic individuals tend to be anxious, self-conscious, impulsive, vulnerable (McCrae & Costa, 1999) and pessimistic (Williams, 1997).

Level/variance inter development phases: Emotional stability is evidenced to moderately increase across adolescence (Roberts, Walton, & Viechtbauer, 2006; Soto *et al.*, 2011; Klimstra *et al.*, 2009). In this primary period of maturation and identity formation (Erikson, 1959; Waterman, 1982), individuals match role-specific expectations (Hogan & Roberts, 2004) – equivalent to talents striving to meet expectations in a pivotal talent pool. Emotional stability seems necessary in order, firstly, to continuously withstand the intense competition (Schmidt *et al.*, 2017), and, secondly, to cope with the pressure resulting from up-or-out decisions on selection (or de-selection) for the next TD phase (cf., Ghosh & Waldman, 2010). Given that pressure is expected to rise inter development phases due to the increasing objective probability of achieving the final/senior development phase (Schmidt *et al.*, 2017), talents need (and are expected) to learn over various development stages how to handle this situation.

H2.1: Talents' level of emotional stability is highest in the senior talent development phase.

Impact on performance: Emotional stability is evidenced as a predictor of performance in various work areas (e.g., Barrick & Mount, 1991; Barrick *et al.*, 2001; Salgado, 1997),

illustrating the importance of, *inter alia*, resilience and self-confidence. In addition, it is positively related to leadership emergence and effectiveness (Judge *et al.*, 2002). As aforementioned, talents cannot afford to be susceptible to negative effects in a pivotal talent pool. Emotional stability is therefore, in line with previous evidence, hypothesized to enhance performance. This is considered more relevant for talents who are (primarily) performing with their age-based peers since they are faced with the severe consequences of potential de-selection. In contrast, for talents performing above their peers (i.e., superior performance), emotional stability is expected to be less relevant given that star talents have (comparatively) 'less to lose' after early promotion. In the worst case scenario, they are downgraded to the development level of their peer group.

H2.2: Enhanced emotionally stability (a) fosters talent's overall performance throughout all talent development phases but (b) has no effect on superior performance.

4.2.2.3 Extraversion

Extraversion refers to a person's degree of assertiveness and enthusiasm (DeYoung, Quilty, & Peterson, 2007). Extraverts tend to be caring, gregarious, assertive, active and excitement-seeking (Bass & Bass, 2008). They are more likely to take charge and engage in group situations, often in a dominant, assertive manner that assures visibility (Ashton, Lee, & Paunonen, 2002).

Level/variance inter development phases: Research evidence on changes in levels of extraversion within childhood, adolescence and emerging adulthood is diverse. For instance, Denissen *et al.* (2013) conclude on the basis of a meta-analysis that there is no significant development, while (Soto & Tackett, 2015) detect a reduction in extraversion from childhood to adolescence (in line with, e.g., Wortman, Lucas, & Donnellan, 2012), while Bleidorn (2012) reports greater extraversion over time (in line with. e.g., Roberts *et al.*, 2006). Overall, Bleidorn and Schwaba (2017) summarize that "most people likely experience no more than moderate changes in extraversion (…)" (p.39). Within a pivotal talent pool, talents are branded as high potentials and prospective pivotal employees from the outset. Regardless of

their development stage, talents need to be assertive to perform under the (company) spotlight.

H3.1: Talents' level of extraversion is (relatively) stable inter talent development phases.

Impact on talent performance: Extraversion serves as a significant predictor for performance (Barrick, 2005) and leadership emergence (Judge *et al.*, 2002), especially in contexts that necessitate strong social skills (Judge & Zapata, 2015). A pivotal talent pool is arguably such context (that necessitates social skills): extroverts tend to enjoy social attention (Ashton *et al.*, 2002) and further excel and assert themselves in competitive environments (e.g., Graziano, Feldesman, & Rahe, 1985; Bentea & Anghelache, 2012). Extraversion is therefore expected to impact talents' performance positively. Such an effect is anticipated to be even stronger among star talents due to their "value creating advantages, capabilities and action potential" (Pitelis, 2009, p. 1115).

H3.2: Enhanced extraversion fosters talent's (a) overall performance and (b) superior performance throughout all talent development phases.

4.2.2.4 Openness to Experience

Openness to experience describes an individual's sensitivity, imagination and intellectual curiosity. People that are open to experience are attentive to their inner feelings (McCrae & Costa, 2008), are creative (Feist, 1998; McCrae & Costa, 1997), think diversely (McCrae, 1987), and are likely to question authority (Rothmann & Coetzer, 2003). Applied to a work context, they tend to be self-governed (Hmel & Pincus, 2002) and autonomous (Koestner & Losier, 1996).

Level/variance inter development phases: Alterations to this trait during adulthood are not evidenced consistently. Some studies argue a marginal increase (e.g., Roberts *et al.*, 2006), while others fail to confirm any significant trend (Hill *et al.*, 2013). Affiliated to the specific context – i.e., a pivotal talent pool in which talents, in general, conform to their roles – openness to experience is interpreted as acting creatively and imaginatively within the

predefined framework. Overall, within a talent pool, I assume that talents "experience" their boundaries in the early/mid stages, but get strongly conformist in the senior TD phase when the consequence of missteps is higher (Schmidt *et al.*, 2017).

H4.1: Talents' level of openness to experience is highest in the mid talent development phase.

Impact on talent performance: Evidence on the impact of openness to experience on performance seems to depend on the context: while studies focusing on consulting and training claim its positive link to performance (Hamilton, 1988; Barrick & Mount, 1991; Vinchur *et al.*, 1998), others question its significant predictive patterns (Barrick *et al.*, 2001). Given the focus on a competitive pivotal talent pool, creativity and acting diversely could be seen as a way to stand out from other talents, e.g., of utmost importance for star talents. This is considered as even more important at later TD phases, when other traits get more homogenous due to peer-based assimilation.

H4.2: Enhanced openness to experience fosters talent's (a) overall performance and (b) superior performance throughout all talent development phases.

4.2.2.5 *Agreeableness*

Agreeable personalities tend to be cooperative, eager to help and altruistic (Costa & McCrae, 1992). Trust, straightforwardness, compliance, tender-mindedness and modesty further characterize their cooperative behavior (McCrae & Costa, 1999). On the contrary, antagonistic personalities are rather skeptical, egocentric (Toegel & Barsoux, 2012) and competitive (Rothmann & Coetzer, 2003).

Level/variance inter development phases: Agreeableness is documented to increase towards late childhood (Van den Akker *et al.*, 2014) and within adolescence (Klimstra *et al.*, 2009). Results are, however, inconsistent across individuals and samples (Hill & Edmonds, 2017). The context of TD allegedly requires a balance between cooperation to achieve common goals in a team and antagonism to strive for individual targets. Considering the increasing

competition and risk of failure in later trajectories, agreeableness is expected to be lowest at the senior TD phase.

H5.1: Talents' level of agreeableness is lowest in the senior talent development phase.

Impact on talent performance: Agreeableness fosters performance in occupations with a strong social component (Chiaburu *et al.*, 2011; Judge & Zapata, 2015), training success (Salgado, 1997) and team-work related areas (Judge *et al.*, 1999). This is in line with the characteristic of maintaining positive interpersonal relationships (Barrick, Stewart, & Piotrowski, 2002) and avoiding conflicts (McCrae & Costa, 1999). Within a pivotal talent pool, talents face the trade-off between cooperation for the overall corporate benefit versus competitiveness and concomitant conflicts to strive for individual success. Agreeable people tend to favor group success (Wiggins, 1991) but struggle in competitive environments (Graziano, Hair, & Finch, 1997). Talents scoring high on agreeableness are hypothesized to perform lower. Concomitant is the expectation that star talents, i.e., talents outperforming their peers, are likely to score low on agreeableness due to narcissistic tendencies (Hill & Edmonds, 2017).

H5.2: Enhanced agreeableness impedes talent's (a) overall performance and (b) superior performance throughout all talent development phases.

To conclude this section, Table 4.I provides a summary of the above derived hypotheses on (1) the level/variance of personality traits inter TD phases, and (2) the impact of personality traits on overall and superior performance.

Table 4.I: Hypotheses on Personality Traits' Level/Variance inter TD Phases and their Impact on Performance

Personality trait	Facets	Hypothesized level/variance of talents' personality traits inter development phases	Hypothesized impact of talents' personality traits on performance
Conscientiousness	Achievement-striving, self-discipline, orderliness, dutifulness, competence, deliberation	***H1.1*** Talents' level of conscientiousness is (relatively) stable inter TD phases.	***H1.2*** Enhanced conscientiousness fosters talents' (a) overall performance and (b) superior performance throughout all TD phases.
Emotionally stability	Resistance to stress, balance, calm, contentment, confidence	***H2.1*** Talents' level of emotional stability is highest in the senior TD phase.	***H2.2*** Enhanced emotionally stability (a) fosters talents' overall performance throughout all TD phases but (b) has no effect on superior performance.
Extraversion	Assertiveness, activity, positive emotions, warmth, excitement-seeking, gregariousness	***H3.1*** Talents' level of extraversion is (relatively) stable inter TD phases.	***H3.2*** Enhanced extraversion fosters talents' (a) overall performance and (b) superior performance throughout all TD phases.
Openness to experience	Ideas, fantasy, aesthetics, feelings, actions, values	***H4.1*** Talents' level of openness to experience is highest in the mid TD phase.	***H4.2*** Enhanced openness to experience fosters talents' (a) overall performance and (b) superior performance throughout all TD phases.
Agreeableness	Trust, modesty, cooperation, morality, altruism, sympathy	***H5.1*** Talents' level of agreeableness is lowest in the senior TD phase.	***H5.2*** Enhanced agreeableness impedes talents' (a) overall performance and (b) superior performance throughout all TD phases.

4.3 DATA AND METHODOLOGY

4.3.1 Research Object

The personality-performance linkage in TD is addressed within the opportune setting of the YEA, i.e., talent pool, of a German top-division BL club. This common research object in labor market research (Kassis *et al.*, 2017; Merkel *et al.*, 2017) provides significant benefits for research in TM: Firstly, using YEA overcomes the lack of "direct focus on specific pivotal talent pools" (Cascio & Boudreau, 2016, p. 109).[87] Secondly, YEAs offer a controlled, highly structured and competitive setting. Talents share the homogenous objective of performing and advancing to the next team level, and ultimately to professional status (Schmidt *et al.*, 2017), while the job appraisal and performance decisions parallel the business contexts of professional service firms (Merkel *et al.*, 2017). Thirdly, the results are transferable to other TM-reliant business contexts due to certain parallels, e.g., the high organizational competition for talents, the understanding of talents as being exclusive and developable (Meyers & van Woerkom, 2014; Silzer & Church, 2009), and the shared conception of TM as decision science to invest in the most profitable employees (Boudreau & Ramstad, 2007; Collings & Mellahi, 2009). Fourthly, such a setting offers objective outcome variables and enables the identification of successful talents. Fifthly, quantitative data broadens the methodological focus (Day *et al.*, 2012). Overall, the setting matches the requirements of a "strong situation"[88] (Judge & Zapata, 2015) and is consequently opportune for analyzing the personality-performance linkage in TD.

4.3.2 Sample and Measures

The final sample comprises 600 observations from 203 talents,[89] aged between 10 and 23 years old, who participated in a German BL club's YEA during the course of five seasons

87 A focus on academy players, i.e., branded high-potentials, overcomes the outlined research gap by addressing transitions and performance within a high-potential pool (Day, Gordon, & Fink, 2012).

88 I.e., a work context that is structured, primarily supervised and constrained, incorporates consistent tasks and is linked to high consequences of negative outcomes (Judge & Zapata, 2015).

89 The final dataset follows the matching of semi-annual appraisals to objective performance data, including a concomitant reduction by 83 talents and 308 observations due to non-matching/incomplete data.

(i.e., maximum ten assessment periods). These YEAs[90] train the elite of German football talents, and are commonly structured in three TD phases, i.e.: (1) foundation phase *(junior)*, (2) youth development phase *(mid)*, and (3) professional development phase *(senior)*.[91]

4.3.2.1 Performance Data

Objective performance statistics, i.e., minutes played by talent per half-season, were collected by the DFB as an official source.[92] The allocation of talents to a specific team – and consequent TD phase – is based thereupon.[93] The individual's *overall performance (TPER)* is operationalized as minutes played as a percentage of the maximum possible minutes per half-year,[94] and *superior performance (SPER)* as minutes played in a team above the talent's age-based peer group as a percentage of the maximum possible minutes per half-year.

4.3.2.2 Personality Traits

The empirical secondary data on personality traits is based on semi-annual appraisals of talents. Coaches evaluate talents biannually on, *inter alia*, personality characteristics, using a Likert scale from 1 (very low) to 10 (very high). Such personality measurement in childhood/

90 Every EPFC must operate a YEA (UEFA CLFFPR, 2015). Within Germany, external assessments of YEA include, *inter alia*, education and evaluation as two important facets (DFB, 2017). The collaborating YEA received the highest possible rating in its certification, which is deemed as quality indicator for the dataset.

91 Teams are classified by age group, i.e., Under-[U]12, U13, U14, U15, U16, U17, U19, and U23 teams. The development of talents within the YEA is further separated into three development phases: the "foundation phase", i.e., all age groups below U14; the "youth development phase", i.e., the U14 to U16 age groups; and the "professional development phase", i.e., the U17 to U21 age groups. The U23 team functions as an intermediary between the professional development phase and the professional first team squad. Further considering that this team is operated optionally for TD reasons and is not required by the DFL Licensing Regulations (DFL, 2016), the U23 team is considered as a youth team within this study.

92 Performance data is gathered by the DFB and its affiliated clubs on the basis of match reports that officials have to submit following every match of the season.

93 Talents are primarily registered with their age group following the official cut-off dates of the DFB. Clubs can, however, promote a talent to a higher team/TD phase early. Thus, despite being registered with its peers, the talent, in practice, performs above his peers. Thus, I decided to associate a talent with a team on the basis of the performance data (i.e., the team for which the talent played the most minutes per half year).

94 In cases where the player performed for more than one team within the relevant half season, the percentage of total minutes played in various teams is summed up to *overall performance (TPER)*. In this case, and in order to maintain a comparable measure inter over-performing and normal-performing talents, the *TPER* can exceed 100% (with superior performance being reflected via a binary control variable).

adolescence follows the most common approach of using parents/teacher as assessors (Herzhoff, Kushner, & Tackett, 2017). The personality facets evaluated – i.e., *achievement orientation (ACHI), resilience (RESI), self-confidence (SELF), assertiveness (ASSE), job-specific creativity (CREA)* and *collaborative skills (COLL)* – were classified according to the respective traits of the big-five taxonomy (see Table 4.II for an overview).[95]

4.3.2.3 Control Variables

Several control variables that have been shown to affect a talent's performance are further included: Firstly, a talent's *job-specific skill level (SKIL)* accounts for his non-psychological characteristics. It is based on the aforementioned coach ratings, and, in this case, on specific football skills, e.g., physical, tactical and technical skills. To incorporate SKIL is important to cover other individual differences beyond personality traits that explain variation in performance (e.g., Huijgen *et al.*, 2014; Kassis *et al.*, 2017). Secondly, a *talent's upside potential (UPSP)* incorporates his expected development, i.e., operationalized as the positive delta of the overall appraisal and evaluated development potential based on semi-annual appraisals. This aspect covers the fact that a talent might be selected for and perform in a certain team/TD phase not only due to his current skill level, but also due to development expectations (e.g., Merkel *et al.*, 2017). Thirdly, the *superiority (SUPR)* of the talent is controlled for in the analysis of overall performance in order to cover talents that are classified in a team/career level which outranks their peers' career level (age based) and have to face (comparatively) stronger competition (e.g., Sparrow & Makram, 2015).

4.3.2.4 Categorization

Fourthly, talents are categorized in three *development phases (TDP1/2/3)* to account for seniority in their development trajectories. This follows modern personality research on the changeability of personality traits (Specht, 2017), necessitating consideration of such a differentiated approach segmented by development stages.

95 This taxonomy is considered as the "most ubiquitous and widely accepted trait framework in the history of personality psychology" (Judge & Zapata, 2015, p. 1150), further evidenced as being efficient when focusing on labor market outcome (Barrick & Mount, 1991) and valid for the focus on emerging adulthood, adolescence and childhood (in case of parental evaluation) (Hill & Edmonds, 2017; Herzhoff *et al.*, 2017).

Table 4.II: Variable Definition, Operationalization, Measurement

Variable	Business Context	Operationalization/Measurement		
Dependent variables				
TPER	Talent's overall (objective) performance	Minutes played as percentage of total possible minutes; per half-year		
SPER	Talent's superior (objective) performance	Minutes played as percentage of total possible minutes in a team above age (peer) group; per half-year		
Independent variables				
Personality factors		Semi-annual appraisal by coaches: Likert scale from 1 (very low) to 10 (very high)		
		Low score	**vs.**	**High Score**
Conscientiousness				
C/ACHI	Achievement-orientation	Unfocused	vs.	Focused
Emotional stability				
S/RESI	Resilience	Stable	vs.	Unstable
S/SELF	Self-confidence	Confident	vs.	Hampered
Extraversion				
E/ASSE	Assertiveness	Reserved	vs.	Assertive
Openness				
O/CREA	Job-specific creativity	Lethargic	vs.	Creative
Agreeableness				
A/COLL	Collaborative skills	Antagonistic	vs.	Cooperative
Control factors				
SUPR	Superiority: talent's actual career level (performance based) outranks peer's career level (age based)	1 Player is part of a team above his age group; 0 player is part of team in his peer/age group		
SKIL	Talent's job-specific skill level	Mean of other HC metrics (i.e., physical, technical, tactical), based on semi-annual appraisal by coaches: Likert scale (1-10)		
UPSP	Talent's upside potential	Positive delta of overall appraisal and evaluated development potential based on semi-annual appraisal by coaches: Likert scale (1-10)		
Categorization				
TDP1/2/3	Talent/career development phase	1 Junior: Foundation (U12 – U13) 2 Mid: Youth Dev. (U14 – U16) 3 Senior: Professional Dev. (U17 – U19)		

4.3.3 Methodology

Hypothesized variances of personality traits between TD phases are assessed by multivariate analysis of variance [MANOVA]. The impact of personality traits on talent performance is subsequently scrutinized by estimating nine multivariate OLS regressions – thereby clustering over talents – for overall versus superior performance.[96]

Models 1-3 on overall performance comprise the entire sample (N=600; 203 talents), i.e., with Model 1 including personality traits and the control for talent superiority *(SUPR)*, Model 2 further controlling for talents' job-specific skill level *(SKIL)* and upside potential *(UPSP)*, and Model 3 for TD phases (*TDP1*, *TDP2 versus TDP3*). For the subsequent analysis per development phase, OLS are run with afore significant/robust predictors on sub-samples, i.e., Model 4 on the foundation phase (N_{TDP1}=112; 51 talents), Model 5 on the Youth TD phase (N_{TDP2}=304; 122 talents) and Model 6 on the professional TD phase (N_{TDP3}=184; 85 talents).

The complementary analysis of superior performance, Models 7-9, is based on a reduced sample of observations on superior/star talents (N=82; 69 talents) performing above their peers. Thereby, *SUPR*, the indicator for superiority included in Models 1-3, is obsolete due to its overlapping definition and statistically strong linear relation with superior performance.

For all models, robust standard errors are calculated to minimize heteroscedasticity bias and variance inflation factors to preclude multicollinearity.

4.4 RESULTS

Descriptive statistics and MANOVA results affirm moderate mean-level variances of personality traits between TD phases (see Table 4.III and Table 4.IV), while regression results

96 The (unbalanced) panel dataset of 203 talents (N=600 observation), who were assessed on a maximum of ten occasions (i.e., time periods differ between talents), consists of a weakly defined longitudinal structure. Linear panel models were considered but rejected for two reasons: First, statistically, the results of the Hausman test did not preclude non-systematic effects. Related assumptions of the random-effect model, e.g., that unobserved characteristics affecting performance are uncorrelated with included characteristics, cannot be upheld in this context. Secondly, considering the research question on talents' traits by TD phase, the differentiation by talent/phase is relevant, not the timing (i.e., season). Consequently, OLS are estimated with clustering over players, further including categorical variables for TD phases in models 3/9, and separating TD phases in models 4-6. [RE model was estimated as robustness check; see Appendix Table A4.I.]

underline the impact of talents' personality traits on (superior and overall) performance and the necessity of differentiating between TD phases (see Table 4.V).

4.4.1 Level of Performance and Personality Traits inter TD Phases

First of all, the mean of 59.7% in *overall performance (TPER)*, i.e., percentage of actual versus possible playing time, confirms the highly competitive landscape of pivotal talent pools.[97] Thereby, competition is highest in the senior TD stage (mean $TPER_{TDP3}$ of 53.8%), obviously when talents are competing for (senior) positions outside the talent pool. Previous TD phases have a positive mean difference of up to 10% compared with the senior TD phase.

In line with the high competition, and further to the argumentation on rare "star talents", *superior performance (SPER)* is confirmed to be exceptional with an overall mean of 3.8%. Intriguingly, the highest average *SPER* is found in the senior TD stage (Mean $SPER_{TDP3}$=9.6%). This is particularly noteworthy as it illustrates the tendency to prematurely promote talents in later TD phases for, *inter alia*, the benefit of experience gathering.

Table 4.III: Descriptive Results on Performance / Personality Traits inter TD Phases

TD Phase	**Junior**	**Mid**	**Senior**	**ALL**				
	Mean	**Mean**	**Mean**	**Mean**	**SD**	**Median**	**Min.**	**Max.**
Performance								
TPER	58.264	63.826	53.800	59.713	27.273	62.561	1.146	116.363
SPER[98]	1.522	1.127	9.548	3.783	13.949	0	0	92.821
Personality								
C/ACHI	7.616	8.132	7.620	7.878	1.430	8	3	10
S/RESI	7.366	7.967	7.277	7.643	1.603	8	2	10
S/SELF	6.339	7.622	6.875	7.153	1.426	7	2	10
E/ASSE	6.723	7.586	6.576	7.115	1.523	7	1	10
O/CREA	6.607	7.457	7.185	7.215	1.440	7	2	10
A/COLL	7.857	8.313	7.859	8.088	1.368	8	2	10

97 Such high competition is further striking when taking into account that some talents perform in more than one team (i.e., with and above their peers). As previously indicated, in this case, *TPER* can exceed 100% in order to maintain a comparable measure inter over-performing and normal-performing talents.

98 Descriptive statistics for SPER>0: Mean 27.681; SD 27.734; Median 16.520; Min. 0.385; Max. 92.821

Focusing on personality traits, the most pronounced traits, in all development phases, are *achievement orientation (conscientiousness; C/ACHI)* and *collaboration (agreeableness; A/COLL)*. This is in line with the argumentation that talents are striving for individual but also organizational goals.

In terms of personality trait variance between development phases, hypotheses 1.1 and 3.1 concluded that *conscientiousness* and *extraversion* do not differ. In contrast, the MANOVA results indicate that both traits are significantly higher in the mid than the senior TD phase (*C/ACHI:* +.512; *p*=.000 / *E/ASSE:* +1.009; *p*=.000). In rejection of hypotheses 2.1, the same tendency holds for *emotional stability* (*S/RESI:* +.690; *p*=000 / *S/SELF*: +.747; *p*=000). In conformity with hypotheses 4.1 and 5.1, the results confirm that *emotional stability (O/CREA)* and *agreeableness (A/COLL)* are highest in the mid TD stage ($O/CREA_{TDP2} = 7.457 > O/CREA_{TDP1\&TDP3}$ and $A/COLL_{TDP2} = 8.312 > O/CREA_{TDP1\&TDP3}$).

Table 4.IV: MANOVA Results on Performance / Personality Traits inter TD Phases

	TDP	Mean Difference (vs. Senior TDP)	SE	Sig.	[95% Conf. Interval] Min.	Max.
Performance						
TPER	Junior	4.464	*3.230*	.168	(1.880)	10.809
	Mid	**10.026**	*2.518*	**.000**	5.081	14.970
SPER	Junior	**(8.026)**	*1.610*	**.000**	(11.188)	(4.865)
	Mid	**(8.422)**	*1.255*	**.000**	(10.886)	(5.958)
Personality						
C/ACHI	Junior	(.004)	*.169*	.983	(.335)	.328
	Mid	**.512**	*.132*	**.000**	.254	.770
S/RESI	Junior	.089	*.188*	.637	(.281)	.459
	Mid	**.690**	*.147*	**.000**	.402	.978
S/SELF	Junior	**(.536)**	*.160*	**.001**	(.850)	(.222)
	Mid	**.747**	*.125*	**.000**	.502	.992
N/ASSE	Junior	.147	*.174*	.397	(.194)	.488
	Mid	**1.009**	*.135*	**.000**	.744	1.275
O/CREA	Junior	**(.578)**	*.169*	**.001**	(.909)	(.247)
	Mid	**.273**	*.131*	**.039**	.014	.531
A/COLL	Junior	(.002)	*.162*	.992	(.320)	.316
	Mid	**.454**	*.126*	**.000**	.206	.702

Notes: significant mean differences in bold ($p < .05$); standard errors in italics

4.4.2 Impact of Personality Traits on Overall Performance

Hypotheses 1.2a, 2.2a and 4.2a argued that enhanced *conscientiousness*, *emotionally stability* and *openness to experience* fosters a talent's overall performance across all TD phases, while enhanced *agreeableness* impedes performance (H5.2a). No impact of *extraversion* was expected (H3.2a).

In the results (see Table 4.V), I observe a robust positive impact only of *self-confidence (S/SELF),* a facet of *emotional stability*, on *overall performance* across all models 1-3 when focusing on the entire talent pool (model 1: 4.559; *p*=.000; model 2: 3.653; *p*=.001; model 3: 3.875; *p*=.000). Strengthening a talent's *self-confidence (S/SELF)* by 10% leads to an increase in performance of circa 4% when controlling for the *job-specific skill level (SKIL)* and *career level (TDP1/junior and TDP2/mid)*. A robust impact of any other personality trait on a talent's overall performance cannot be supported overall, so that hypotheses 1.1a and H3.1a to H5.1a cannot be upheld. Such non-significance of personality traits – except for the trait of *self-confidence (S/SELF)* – is in line with the consistent, robust and strong effect of other *job-specific skills (SKIL)* (model 2: 8.949; *p*=.000; model 3: 9.971; *p*=.000).

Intriguingly, the multivariate results further confirm rising competition throughout TD phases, and hence, varying circumstances: compared with the *senior TD phase (TDP3)*, talents perform more in earlier *TD phases* (*junior:* 10.088; *p*=.001 (*mid:* 4.821; *p*=.123)). The consequential disaggregated analysis by TD phase, models 4-6, indicates variations in the impact of personality traits by phase: within the *junior TD phase*, only the *job-specific skill level (SKIL)* is confirmed as significant driver of overall performance (8.714; *p*=.003). In the *mid and senior TD phase*, however, *self-confidence (S/SELF)* increasingly affects a talent's performance (model 5: 3.479; *p*=.072; model 6: 6.082; *p*=.000). The effect of a talent's *job-specific skill level (SKIL)* on overall performance is robust and comparatively high throughout all TD phases (model 7: 8.714; *p*=.003; model 8: 9.950; *p*=.000; model 9: 8.036; *p*=.003).

Overall, the personality facet of *self-confidence (S/SELF)* and the *job-specific skill level (SKIL)* are robust and significant drivers of talents' *overall performance*, with the highest explanatory value for talents' *overall performance* found in the *senior TD phase* (model 6: Adj. R2 = .2581). While the impact of the *job-specific skill level* remains relatively constant between TD phases, the impact of *self-confidence* increases (but does not equal *SKIL*) up to senior TD phase.

Table 4.V: Impact of Personality Traits on Performance in a Pivotal Talent Pool

DEPENDENT				OVERALL PERFORMANCE			SUPERIOR PERFORMANCE		
Model	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
TD Phase	***ALL***	***ALL***	***ALL***	***Junior***	***Mid***	***Senior***	***ALL***	***ALL***	***ALL***
Personality									
C/ACHI	1.519	1.535	1.749				(2.054)	(2.150)	**(4.511)**†
	1.376	*1.385*	*1.370*				*3.611*	*3.823*	*2.284*
S/RESI	**2.103***	1.263	.960				**6.226**†	**6.431**†	**5.896***
	.964	*1.036*	*1.043*				*3.222*	*3.302*	*2.663*
S/SELF	**4.559*****	**3.653****	**3.875*****	1.139	**3.479**†	**6.082*****	**.**436	.483	.163
	1.044	*1.046*	*1.065*	*1.602*	*1.919*	*1.475*	*2.281*	*2.359*	*1.979*
E/ASSE	.595	(.904)	(1.350)				2.601	2.819	3.503
	1.113	*1.098*	*1.134*				*3.193*	*3.559*	*2.837*
O/CREA	1.225	(1.499)	(1.555)				**5.455***	**5.857**†	**4.233**†
	.976	*1.186*	*1.196*				*2.630*	*3.182*	*2.485*
A/COLL	.195	.284	.490				(2.373)	(2.458)	.699
	1.109	*1.101*	*1.092*				*2.528*	*2.664*	*2.271*
Controls									
SUPR	5.049	3.142	6.105				(implicit)	(implicit)	(implicit)
	4.619	*4.806*	*5.134*						
SKIL		**8.949*****	**9.971*****	**8.714****	**9.950*****	**8.036****		(1.213)	
		2.217	*2.205*	*2.793*	*2.270*	*2.606*		*5.598*	
UPSP		(1.763)						(.102)	
		1.152						*3.603*	
TDP1 (junior)			**10.088****						(7.441)
vs. *senior*			*3.024*						*18.270*
TDP2 (mid)			4.821						**(29.234)*****
vs. senior			*3.114*						*4.836*
Constant	(15.795)†	(34.040)**	(46.275)***	(5.663)	(34.132)*	(43.317)**	(48.844)†	(45.028)	(34.164)
Adjusted R2	.1685	.2004	.2112	.1276	.1423	.2581	.1119	.0882	.3557
VIF	1.86	2.00	2.03	1.43	1.29	1.56	2.15	2.28	1.94
Cluster	203	203	203	51	122	85	69	69	69
N Observations	600	600	600	112	304	184	82	82	82

Notes: †p<.1 *p<.05 **p<.01 ***p<.001 (in bold); robust standard errors in italics

4.4.3 Impact of Personality Traits on Superior Performance

In terms of superior performance, i.e., talents' performance at a career level above their peers, hypotheses 1.2b and 4.2b assumed a positive effect of *conscientiousness* and *openness to experience* on *superior performance (SPER)*. An impeding effect was argued for *agreeableness* (H5.2a) and no effect for *emotional stability* (H2.2a) and *extraversion* (H3.2a).

Focusing on individuals performing above their peers, *emotional stability* – via its facet of *resilience (S/RESI)* – and *openness to experience* – via its facet of *creativity (O/CREA)* – are confirmed to advance *superior performance*. Such effects are robust and significant across all models (*S/RESI*: model 7: 6.226; *p*=.057; model 8: 6.431; *p*=.056; model 9: 5.896; *p*=.030; *O/CREA*: model 7: 5.455; *p*=.042; model 8: 5.857; *p*=.070; model 9: 4.233; *p*=.093). Interestingly, when controlling for *TD phases*, *conscientiousness* – with its facet of *achievement orientation* – becomes a significant but negative predictor of superior performance (*C/ACHI*: model 9: -4.511; *p*=.052). It is further noteworthy, and in contrast to results on *overall performance*, that neither the *job-specific skill level* nor other personality traits, for example *self-confidence* (a consistent positive predictor of *overall performance*), is confirmed as a facilitator of *superior performance*. Hypothesis 4.2b is consequently confirmed, while other respective hypotheses are rejected.

In addition to the outlined personality traits, the *TD phases* further impact the level of *superior performance*: compared with the *mid TD phase (TDP2)*, *superior performance* is increased in the *senior TD phase* (29.234; *p*=.000).[99] This follows previously outlined results on the comparison of talent performance inter TD phases, indicating the premature promotion of talents to the *senior TD phase*.

99 In line with the multivariate results on overall performance, the significant categorical variable *TDP2* underlines the importance of differentiating between TD phases when analyzing the impact of personality traits on superior performance. However, as per its definition and as confirmed by the results of this article, star talents and consequent superior performance are rare. Accordingly, such an analysis by TD phase is difficult to perform due to small datasets. This dataset, with 82 observations on star talents, does not enable a disaggregated analysis of superior performance by TD phase.

4.5 DISCUSSION

The objective of this study was the two-folded analysis of the personality-performance linkage within a pivotal talent pool, differentiating by: (1) different TD phases, i.e., *junior*, *mid* and *senior TD phase*; and (2) *regular* and *superior talent performance*. Addressing the antecedents of talent performance is crucial in order to increase the effectiveness of organizational TM and the consequent value generated (e.g., McDonnell *et al.*, 2017; Collings, 2017).

The specificities of a *pivotal talent pool* as a "strong situation" – i.e., a highly structured and competitive environment in which talents perform on consistent tasks while supervisors decide on (de-)selection, and consequently on performance plus promotion (e.g., Judge & Zapata, 2015) – led to the research request for a direct focus on pivotal talent pools (e.g., Cascio & Boudreau, 2016). Both the MANOVA and the multivariate regression results confirm the specific characteristics of such talent pools: Firstly, the decreasing overall performance from junior to senior TD phase underlines the increased competition for pivotal positions at the end of the TD trajectory. Secondly, and in line with the academic claim of a small elite (Lepak, Smith, & Taylor, 2007; Sparrow & Makram, 2015), the low level of superior performance demonstrates the scarcity of star talents. Interestingly, and in contrast with overall performance, superior performance increases with seniority, despite the rising competition up to senior TD phase. These interlinked findings – i.e., increasing competition up to senior TD phase accompanied by the early promotion of outstanding talents – illustrate the centrality of managing talents and pivotal positions: organizations accelerate the development of (outstanding) talents by early promotion to later TD phases in order to secure the strategic target of succession planning (Tarique & Schuler, 2010). Early promotions accustom talents to prospective pivotal internal roles at senior level and increase the likelihood of retaining them within the organization (e.g., Martin et al., 2005; Edwards, 2017). Such benefits can, however, only be realized if continuous performance opportunities are provided, in the form of actual, not just contractual, promotions (cf., dissertation chapter 3 [Article 2]: Does TM Create Organizational Value? Empirical Evidence from the Talent Pools of EPFCs: i.e., confirmed use value). Within this article's sample, only 25% of star talents (i.e., 21 out of 82 star talents; 203 talents overall) received a significant share (herein 50%) of performance/playing time. Such management calls into question the practice of early

promotion and puts the individual talents' development (and consequently the potential organizational value) at risk. The imbalance of talent pools – i.e., a high number of talents competing for few pivotal positions at senior level – needs to be mitigated by active and prescient TM.

Focusing on talents' personality traits, their ubiquitously high levels, limited variance inter TD phases and confirmed impact on performance provide important managerial insights. S*elf-confidence (S/SELF)* is a key driver of *overall performance* in pivotal talent pools, with *resilience (E/RESI)* and *creativity (O/CREA)* further facilitating *superior performance*. Overall, personality traits matter for talents' performance, while competencies and skills – evidenced by the significant *job-specific skill level (SKIL)* for overall performance – are to be strengthened complementarily on the development trajectory.

Conscientiousness – in this study reflected via the facet of *achievement orientation (C/ACHI)* – was hypothesized to remain stable between TD phases with a positive impact on overall and superior performance (hypotheses 1.1/2). With mean differences below 10%, the results confirm the stability of conscientiousness inter TD phases. This is contrary to academic evidence of conscientiousness increasing throughout adolescence and emerging adulthood (Hill & Edmonds, 2017; Bleidorn & Schwaba, 2017), but is in line with expectations taking the specificities of a pivotal talent pool into account. Talents who are selected for such pivotal pools seem inherently motivated to participate in advanced developmental structures and eventually to grow into pivotal positions. A high level of conscientiousness throughout TD phases is self-evident and further confirmed in the dataset (i.e., second highest mean of analyzed personality traits), although the evidenced (but non-robust) negative effect on superior performance hint that achievement orientation in its extremes of obstinacy and doggedness is to be managed. Overall, in line with the argumentation of a ubiquitously high level of conscientiousness in a pivotal talent pool, no consistent effect is detected on overall and superior performance. This is contrary to previous academic results indicating its positive impact (e.g., Corker *et al.*, 2012), however, it also underlines the importance of considering contextual factors within TM research (Gallardo-Gallardo *et al.*, 2015). My results demonstrate that *conscientiousness* in pivotal talent pools is more a selection than a development/performance-differing criteria.

Emotional stability – operationalized via its facets of *resilience (S/RESI)* and *self-confidence (S/SELF)* – was argued to be highest in the senior TD phase while fostering overall

performance throughout all TD phases (hypotheses 2.1/2). The descriptive results indicate the highest levels of emotional stability in the mid TD phase and therefore contradict hypothesis 2.1. While *resilience (S/RESI)* is comparatively stable inter TD phases (i.e., mean differences below 10%), self-confidence is around 20% higher in the mid TD phase compared with the junior TD phase. Both *resilience (S/RESI)* and *self-confidence (S/SELF)* peak in the mid TD phase. Within this TD phase, talents form their identities (Erikson, 1959; Waterman, 1982) and meet role-specific expectations (Hogan & Roberts, 2004). They understand developmental supremacy, leading to increased *self-confidence (S/SELF)* from the junior to mid TD phase. By contrast, the decrease in the senior TD phase could be a result of increasing awareness of high (and rising) performance expectations along with advancing pressure due to organizational investments made in their development. It is therefore interesting to note that *self-confidence (S/SELF)* has a positive impact on overall performance throughout all TD phases. This is in line with academic results not focused on pivotal talent pools (e.g., Barrick & Mount, 1991; Barrick *et al.*, 2001). So despite *self-confidence (S/SELF)* being lower in the mid compared to senior TD phase, its impact on overall performance is actually higher in the latter (confirmation of hypothesis 2.2a). Such key results – the relevance of *self-confidence (S/SELF)* for talents that are performing with their peers (versus above their peers), in particular for talents in the senior TD phase (versus junior and mid TD phase) – can be explained with the more severe consequences of non-performance, e.g., de-selection and disqualification from the pivotal talent pool despite significant personal investments in specific HC. By contrast, for talents performing above their peers (i.e., superior performance) or in non-senior TD phases, the consequence would be less severe due to either continuance in the pivotal talent pool or comparatively lower investments in specific HC. Along with this argumentation of less severe consequences of non-performance in the superior talent group, *self-confidence (S/SELF)* is not a differentiating factor in superior performance. However, *resilience (S/RESI)* is confirmed as a superior-performance-enhancing characteristic (rejection of hypothesis 2.2b). Being promoted to a superior talent level early necessitates the adaptation of those (superior) talents to new role-specific expectations. Resistant talents arguably respond stably to the intense competition plus pressure and consequently confirm their superiority. Recapping on *emotional stability* overall, the results manifest the importance of *emotional stability* in its facets of *self-confidence (S/SELF)* and *resilience (S/RESI)* in order to perform in pivotal talent pools.

Talents' *levels of extraversion* – measured via the facet of *assertiveness (E/ASSE)* – were expected to be (relatively) stable throughout all TD phases while enhancing overall as well as superior performance (hypotheses 3.1/2). The results do not confirm the hypotheses: levels of *assertiveness (E/ASSE)* vary inter TD phases, being substantially higher in the mid TD phase. Considering the inconsistent research evidence of a reduction (Soto & Tackett, 2015) or increase (e.g., Roberts *et al.*, 2006) in levels of extraversion from childhood to adolescence, along with the current results of a fluctuating level between TD phases, it seems that contextual factors are indeed important (Gallardo-Gallardo *et al.*, 2015). In a pivotal talent pool, talents act as branded high-potentials in the company spotlight, which seems to prompt talents to behave in a dominant and assertive way throughout all TD phases. The level of *assertiveness (E/ASSE)* peaks in the mid TD phase, a phase in which talents become aware of their status, socially expected roles as well as accompanying competition (Hill & Edmonds, 2017). They allegedly (over-)respond by demonstrating assertiveness in group situations in order to secure their rank in the work context. Such an alleged overreaction seems to be neutralized at senior level, when role-conforming behavior within the group is expected. A performance-enhancing impact of *extraversion* via its facet of *assertiveness (E/ASSE)* can be confirmed neither for overall nor for superior performance. This seems to be a consequence of focusing on a pivotal talent pool and hence talents that are all familiar with being the center of attention.

Focusing on *openness to experience* – accounted for here via the facet of *job-specific creativity (O/CREA)* – the highest level was expected in the mid TD phase (hypothesis 4.1), with an enhancing impact on both overall and superior performance (hypothesis 4.2). Levels of *job-specific creativity (O/CREA)* are indeed highest in the mid TD phase, indicating an exploration of boundaries, followed by more role-conforming behavior in the highly competitive senior TD phase. While its impact on overall performance cannot be supported, *job-specific creativity (O/CREA)* is confirmed as predictor of superior performance. Indeed, acting creatively in the work context – and somehow diversely in comparison with competitors/other talents – seems to be a way for talents to stand out from the rest of the pool. This result is line with evidence from the field of consulting (Hamilton, 1988; Barrick & Mount, 1991; Vinchur *et al.*, 1998) – allegedly also a very competitive environment matching the criteria of a strong situation. To conclude on *openness to experience*, the facet of *job-specific creativity (O/CREA)* enhances superior performance, presumably due to (superiority) signaling in the case of peer-based assimilation.

Agreeableness – operationalized by the facet of *collaboration (A/COLL)* – was reasoned to be lowest in the senior TD phase, with an impeding impact on overall and superior performance throughout all TD phases (hypotheses 4.1/2). Levels of *collaboration (A/COLL)* are similar in the junior and senior TD phases, and indeed lower in both than in the mid TD phase. Such an increase from the junior to mid TD phase is in line with previous research evidence (Van den Akker *et al.*, 2014), while the decrease from the mid to senior TD phase is in contrast with previous results (Klimstra *et al.*, 2009). The latter is, however, plausible when considering that talents need to find the right balance between cooperation to achieve common goals and antagonism due to their individual achievement orientation (Schmidt *et al.*, 2017). In terms of its impact on performance, *agreeableness/collaboration (A/COLL)* impacts neither overall nor superior performance in a pivotal talent pool. While talents face the trade-off between cooperation for corporate success and antagonistic behavior for individual success, increased antagonistic behavior does not increase personal benefit/ performance. This is in contrast with previous studies confirming the negative affect of agreeableness on extrinsic career success (Boudreau, Boswell, & Judge, 2001; Seibert & Kraimer, 2001).

Complementarily to the focus on personality traits affecting talents' performance, the positive and consistent impact of *job-specific skill level (SKIL)* on overall performance is noteworthy. An impact on superior performance is, however, not apparent, illustrating the importance of other differentiators (such as personality traits).

4.5.1 Practical Implications

Engaging in a pivotal talent pool is a risky career choice for talents due the high attrition rates (e.g., Kassis *et al.*, 2017) along with the aggravating factor of being primarily trained on specific HC (Schmidt *et al.*, 2017; Merkel *et al.*, 2017), which lowers prospective chances in other labor fields. Linked to the organizational target of TM efficiency in order to lead talents into internal pivotal positions, organizations need to advance their identification, hiring and development structures. The underlying results of this article – i.e., confirming that personality traits do indeed impact talents' performance in pivotal talent pools – provide a starting point to improve the systematic management of talents (Meyers & van Woerkom, 2014).

Focusing on the organizational selection and hiring process, personality traits are to be incorporated as test and selection criteria. This also applies to areas in which specific HC is (supposedly) more relevant, e.g., in sport. The results indicate that *self-confidence* is just as important as the *job-specific skill level* in the senior TD phase, i.e., the phase preceding senior level positions. Firstly, in terms of candidate selection, organizations would increase their likelihood of choosing a future pivotal employee who will master the prospective developmental challenges in the strong situation of a pivotal talent pool. Secondly, in terms of hiring, an advanced assessment process – including knowledge-sharing on fostering or limiting traits for talents' individual development – would signify the professionalism of TM structures to the candidate, i.e., an important "sales argument" within the war for talent (e.g., in sport). Thirdly – an often neglected but decisive point – organizations have a responsibility towards (young) talents to positively shape their future. Due to the imbalance between the number of potential candidates (talents) versus the pivotal positions available and the resulting high attrition rates, organizations have to reduce the risks faced by talents by means of more adequate selection (and training on general HC (Merkel *et al.*, 2017)). Overall, an advanced, objective and holistic assessment of candidates (not only hired talents) is a key complement to the scouting and assessment of talents' job-specific (i.e., football) skills.

Focusing on the developmental process, similar arguments apply in order to incorporate personality training into the development plan. While current training – especially in sport, and specifically YEAs in football – concentrates on specific competencies and skills, organizations should follow academic advice and offer a holistic development approach also covering general HC, including personality training. This article's results specifically indicate that specific traits impact talents' (overall and superior) performance. Individual talents would, in particular, benefit from personality training in the mid TD phase, i.e., when talents form their identities (Erikson, 1959; Waterman, 1982) and meet role-specific expectations (Hogan & Roberts, 2004). At the latest, such training is to be incorporated and intensified in late development stages, i.e., when talents are faced with significant competition along with advanced pressure due to the (individual and organizational) investments previously made in their development.

Speaking about specific personality traits, developmental measures to strengthen *self-confidence* and *resilience* of all talents versus superior talents are to be implemented. Both traits are decisive for talents to meet role-specific expectations while not choking under the

pressure of severe competition. Additionally, and constituting a balancing act, organizations should implement guiding rules and practices on performing and collaborating in a pivotal talent pool, while neither restricting the talents' individuality (and their consequent *job-specific creativity)*, nor pushing talents beyond a "healthy" goal orientation.

Overall, an advanced, objective and holistic assessment and development approach would be a decisive complement to measures/training plans that solely address the job-specific (i.e., football) skill level. Such advancement would represent a win-win situation for both talents and organizations.

4.5.2 Limitations and Future Directions

While this paper addresses the key topic of performance antecedents in TM research within the advantageous setting of a pivotal talent pool, some limitations need to be pointed out and addressed by future studies:

Firstly, while the research object of an YEA offers notable benefits and the sports context has been used for earlier labor market research (e.g., Merkel *et al.*, 2017; Kassis *et al.*, 2017), the transferability of results could be challenged. Analysis in other business contexts would complement this study, provided that the focus on a strong situation (work context), direct focus on talents as well as presence of objective TM outcome measures is maintained.

Secondly, as aforementioned, the unbalanced panel dataset has a weakly defined longitudinal structure, restricting the use of linear panel models. In order to apply more advanced methods (e.g., linear panel models), further enabling a detailed analysis of personality development by talent, an extended panel dataset from a defined and time-invariant pivotal talent pool would be a reasonable extension of this study (Day *et al.*, 2012).

Thirdly, the personality measures were based on semi-annual appraisals (i.e., the most common personality measurement approach in childhood/adolescence (Herzhoff *et al.*, 2017) but restricted to selected personality facets. Future assessments should cover a wider range of facets, and potentially other personality categorizations, in order to strengthen the measurement and analysis of personality traits (Goldberg, 1992; McCrae & Costa, 1999).

4.6 CONCLUSION

This paper addresses a key gap in TM research on "[…] what determines high performance?" (McDonnell *et al.*, 2017, p. 117) by highlighting the importance of personality traits for the performance of talents who are trained within the strong situation of a pivotal talent pool. The findings illustrate the ubiquitous high level of certain personality traits among pivotal talents, their limited variance inter TD phases as well as their significant impact on talent performance. As a complement to talents' job-specific skill level, the personality facet of self-confidence is a consistent driver of overall performance, with resilience and job-specific creativity being essential in order to perform above peer-group level (i.e., achieve early promotion as star talents). Early promotion is indeed evidenced to be scarce (e.g., Sparrow & Makram, 2015). Remarkably, this superior performance is primarily prevalent in the senior development phase despite the (confirmed) increase in competition for pivotal (senior) positions – i.e., reinforcing the centrality of TM for organizational succession planning (Sparrow & Makram, 2015) and the concomitant necessity to retain talents (Edwards, 2017).

The findings contribute to the TM literature by advancing the understanding on the antecedents of performance, an essential question that is explicitly to be addressed within the particular context of pivotal talent pools (Collings *et al.*, 2017; McDonnell *et al.*, 2017). Due to the supplementary (empirical) affirmation of the existence of a small elite, the TM literature is further strengthened on the strand of star talents (Cascio & Boudreau, 2016). Comprehensively, and in summary on the central issue of organizational TM: taking into account that the individual talent mediates between TM structures and organizational performance (e.g., Collings & Mellahi, 2009; Minbashian, 2017), the results illustrate leverage points to increase the organizational effectiveness of TM – i.e., a fundamental prerequisite to derive organizational value (and a positive return on investment) from TM.

Prospective studies could test further antecedents or a wider range of personality facets on an extended and balanced longitudinal dataset. The variability and development of talent characteristics is furthermore to be scrutinized in other pivotal talent pools (and industries). A more granular understanding of successful TD (for general versus star talents) in various contexts is needed – a target that this study has advanced in order to provide guidance that reduces the attrition risk for talents and increases the effectiveness of TM for organizations.

5. CONCLUSION

5.1 OVERALL SUMMARY

The overarching objective of this dissertation was to substantiate the foundations of the TM literature. Advancing this phenomena-driven research field – which is based on implicit value claims (e.g., Sparrow & Makram, 2015) – is essential to position the field academically (e.g., Collings *et al.*, 2017), and to, subsequently, strengthen the guidance on effective TM in practice (e.g., McDonnell *et al.*, 2017; Cascio & Boudreau, 2016). As a contribution, this dissertation on *"TM as a Vital Business Model Component: The Case of European Professional Football Clubs"* scrutinized/addressed the organizational

Relevance of TM *[Article 1]*,
Value of TM *[Article 2]*,
(In)effectiveness of TM (via the antecedents of talent performance) *[Article 3]*,

within the context of the pivotal talent pools of EPFCs. These research foci were addressed in three empirical, standalone research articles. Building on the thorough discussion of results as well as the conclusions and implications derived in each individual article, this section complementarily provides a condensed interlinked summary of the results and implications.

Organizational Relevance of TM

The first research article in this dissertation scrutinized the *organizational relevance of TM* for EPFCs subsequent to a detailed contextualization of European football. Thereby, the unique cross-organizational and multinational dataset offered a heterogeneous club and strategy sample. Four key insights are derived: (1) the erroneous polarization of the industry, i.e., centralization of commercial strength, talent and sporting success, is evidenced, providing an important contextual basis. Hence, the implementation of business models and strategies that counterbalance disadvantageous market conditions becomes fundamental in order to secure EPFCs' competitiveness and long-term viability. Further, and essentially for this dissertation, the analysis of business models for their future prospects – i.e., the prevalence of effective YD structures and affiliated strategies – emphasizes (2) the prevalence of TM as sustainable business model for EPFCs operating in disadvantaged markets (i.e., countervailing function), (3) the ubiquitous relevance of TM as a strategy component, and (4) that TM constitutes a core improvement lever for various business models. In central conclusion for the field of TM research, this article's results on the intersection of TM and

strategy underline the fundamental relevance of TM in practice (Sparrow *et al.*, 2014a; Collings *et al.*, 2017) for a sustainable outlook (McDonnell *et al.*, 2017).

Organizational Value of TM

Following the confirmation of its (practical) relevance, the second research article of this dissertation addressed the *central tenet/postulation that TM creates organizational value*. Applying an advantageous dataset covering multidimensional organizational performance indicators and objective measures of TM performance, the empirical findings confirm that TM leads to various forms of organizational value, *inter alia*: First (current/non-economic value), TM creates use value (i.e., performance at senior level), which is, however, lowered by the negative effect of reduced workforce experience at senior level. Second (current/ economic value), operating with a business model focusing on YD (and/or on a market with a high TM acceptance) further lowers organizational personnel costs. This, however, is not the case for (high-performing) organizations on premium markets, illustrating their necessity to retain top talents via competitive compensation schemes (Cappelli, 2000; O'Boyle & Kroska, 2017). Third (non-current/economic value), TM derives exchange value (e.g., via payments by competitors to lift talents' non-compete clauses), while external framework conditions are to be strengthened in order to translate such monetary effect into financial sustainability. Fourth (non-current/non-economic value), effective TM and TM-focused business models create TM reputational gains and social acceptance for the organization, both key features of organizations wishing to hire and retain talents (e.g., Edwards, 2017). In overall conclusion: while this confirmation of organizational value is fundamental, organizations, nevertheless, have to mitigate negative effects of TM and further critically assess the legitimacy of their TM investment by the derived return. To put this more clearly, a negative return on TM investment would emphasize an imperative to strengthen TM effectiveness overall – and not to abandon TM practices – since this article's results notably confirm the (positive) organizational value derived by effective TM.

Antecedents of Talent Performance (TM Effectiveness)

Given that talents' individual performance (when placed in pivotal positions) mediates organizational value (e.g., Collings & Mellahi, 2009; McDonnell *et al.*, 2017), the third research article of this dissertation focused on the *antecedents of talents' performance*. In particular, the performance effect of personality traits and their variance inter TD phases was

scrutinized using a dataset of 203 talents from a pivotal talent pool. Three key conclusions are generated: First, the results evidence personality traits as a performance driver. While self-confidence advances overall performance, resilience and job-specific creativity increase performance after early promotion, i.e., above peer-group level. Second, the overall level of such traits is rather high, but its variance between TD phases is moderate. Both imply a homogeneity (and concomitant peer-based assimilation) of talent pools. Third, the affirmed competitiveness within pivotal talents pools as well as the rare existence of early promotions (i.e., primarily at the last TD phase) further underline the importance of contextualization (e.g., Doh, 2015; Sparrow & Makram, 2015). In overall conclusion, the results on the personality-performance linkage illustrate mitigating factors to reduce attrition rates in TM as a result of more effective TM structures. Holistic identification and development structures – *inter alia,* complementing the scouting focus on specific HC by personality assessment, and integrating personality training in development plans (especially given that adolescence "is viewed as a primary period of identity development" (Hill & Edmonds, 2017, p. 28)) – would strengthen the effectiveness of organizational TM in order to derive organizational value.

Interlinked Summary and Specific Sports-Strategy Conclusions

With a particular focus on European football, the interlinked results of all three research articles illustrate the centrality of TM for EPFCs. In reference to the illustrated findings on its organizational value (cf. research article 2: e.g., use value, exchange value, reputational effects and lowered cost level with MYTH), TM is to be strengthened in all business models. The results of research article 1 indicate pertinent levers: the short-term orientation of prize-benefactor and prize-money-reliant clubs is evidenced by a lower strategic importance of YD, ineffective TM structures and operations as talent buyers – i.e., illustrating key entry points to create a more sustainable perspective with (sporting and financial) upside potential. While such long-term perspective exists among financially advanced clubs, their ineffective TM structures (i.e., fewer talents in internal pivotal positions) illustrate a lever for improvement. Distressingly, it is analogically noted that clubs operating with countervailing business models, – i.e. transfer-reliant and YD-focused – also fail to convert the centrality of TM into the YD of top talents. Such ubiquitously ineffective TM structures are to be addressed (cf. research article 3). Stakeholders, consequently, have to provide respective developmental support and address TM-associated grievances (e.g., player hoarding, transfer of minors, inadequate solidarity mechanism) in order to strengthen the effectiveness and benefits of TM.

5.2 RESEARCH CONTRIBUTIONS AND FUTURE DIRECTIONS

This dissertation substantiates the TM literature by contributing to the prevalent research on several dimensions, while explicitly addressing key, pertinent research questions:

First, the present work extends (primary single-site) practitioner reports by means of empirical, practice-focused research (Sparrow *et al.*, 2014a; Collings *et al.*, 2017) in a cross-organizational context (e.g., Doh, 2015; Sparrow & Makram, 2015). The expanded evidence of its relevance constitutes a starting point for advanced TM research (Collings *et al.*, 2017), with a complementary focus on TM in sport (e.g., Prinz & Weimar, 2017).

Second, the advanced insights on the TM-strategy link further confirm the centrality of TM as an improvement lever for various business models and strategies. While this, first and foremost, underlines the relevance of TM, it further illustrates that "organizations must be better aligned with long-term business strategy in order to provide a basis for differentiation and competitive advantage" (Sparrow *et al.*, 2014b, p. 57). The latter emphasizes the necessity of further research on the intersection of TM and organizational strategy (Sparrow *et al.*, 2014a; McDonnell *et al.*, 2017).

Third, and fundamentally for the field of TM research, this dissertation closes a pivotal gap in relation to its core but implicit value claim (e.g., Sparrow & Makram, 2015; Bethke-Langenegger *et al.*, 2011). Confirming the organizational value of TM constitutes a central advancement for the field's academic positioning (e.g., McDonnell *et al.*, 2017; Collings *et al.*, 2017). Due to the multidimensional operationalization of organizational performance, the present work further indirectly addresses the complementary question of "how talented individuals influence organizational performance […]" (McDonnell *et al.*, 2017, p. 116) – i.e., *inter alia*, via direct (e.g., confirmed use value) as well as indirect (e.g., exchange value or reputational effects) effects that are interlinked with talents' individual performance.

Fourth, addressing the antecedents of individuals' (and via their mediating effect organizational) performance contributes to the interlinked discussion on TM effectiveness (McDonnell *et al.*, 2017). The derived insights into personality traits can be translated into concrete adaptations of TM operations (as outlined) in order to strengthen the organizational value via facilitated TM effectiveness (Collings *et al.*, 2017; Ployhart & Cragun, 2017; Minbashian, 2017). Complementary research on TM operations and processes – for instance

on talent development (e.g., Day & O'Connor, 2017), talent retention (Hausknecht, 2017) or overarching talent analytics (Fink & Sturman, 2017), is to be extended (e.g., Collings *et al.*, 2017; Sparrow *et al.*, 2014a).

Fifth, and specific to sports management, the heterogeneous club sample and extended scope of business models and strategies constitutes a highly relevant extension to sports-strategy research with its primary focus on elite clubs (Shilbury, 2012) and their commercially diversified strategies (e.g., Schmidt & Holzmayer, forthcoming). The extension to non-elite and (financially) disadvantaged clubs is critical due to both its practical and concomitant empirical relevance in order to secure and advance club operations (*inter alia*, via TM contributing to an advantageous organizational outlook (McDonnell *et al.*, 2017)).

Complementing its theoretical (and practical) contributions, and as highlighted in the individual research articles, this dissertation further channels some methodological advancements (and overcomes previous limitations) due to its focus on pivotal talent pools: Firstly, the context assures a direct research focus on unambiguously defined pivotal positions (cf. Collings & Mellahi, 2009) and talents (cf. Thunnissen *et al.*, 2013a; Cascio & Boudreau, 2016; McDonnell *et al.*, 2017). Secondly, TM performance is objectively measured by the number of talents advancing to senior positions (cf. Nesti & Sulley, 2014; Kassis *et al.*, 2017; McDonnell *et al.*, 2017). Thirdly, a multidimensional conceptualization of the organizational outcomes extends the insights significantly (e.g., covering the nature and, newly introduced, term of value) (cf., Collings, 2014; Collings *et al.*, 2017). Overall, pivotal talent pools offer an expedient laboratory for this dissertation and future TM research.

In addition to previously indicated future research directions derived from the dissertation's contributions, some limitations of this dissertation – aggregated from the individual standalone research articles – illustrate additional prospective research avenues: First, while the datasets used in this dissertation were highly unique, methodological and content-related restrictions resulted from the limited number of organizations (cf. articles 1 and 2) and talents (cf. article 3). Extended datasets would enable (1) a disaggregated analysis by object (e.g., talent vs. star talent addressing the individual talent perspective; or, e.g., intra non-elite organizations addressing the organizational TM perspective), while (2) enabling the analysis of an extended range of characteristics (e.g., other HC components; or more granular organizational strategies). Second, and in complement to the sample sizes, (strengthened) panel data are crucial to derive insights into the long-term impact of TM (e.g., development

of HC over time in adolescence within a pivotal talent pool; or analysis of strategy impact on organizational/TM performance; or TM effectiveness over time). Third, a replication of my results derived on the TM relevance, value and performance antecedents within talent pools in other industries (while maintaining the cross-organizational and multinational context) would increase (and confirm) its generalizability, and further strengthen the TM literature.

Concluding Remarks

In overall conclusion, this dissertation contributes substantially to the advancement of the TM literature by extending the empirical evidence of its organizational relevance, organizational value, while further illustrating key improvement levers to strengthen the organizational TM effectiveness (herein, via the antecedents of talent performance).

Sports specifically, and in response to the challenging context of European football, TM is ubiquitously a central strategy component plus the primary business model for EPFCs operating in (economically) disadvantaged markets. Subsequently, the empirically evidenced organizational value derived by effective TM is fundamental. While this, *inter alia*, secures clubs' sporting continuity in the short-term, it further improves the (financial) position and outlook of non-elite clubs in the longer term. In order to secure such organizational value, the effectiveness of organizational TM is to be strengthened continuously.

TM is, *de facto*, a *"[…] vital business model component"* for EPFCs – although intensified empirical research remains key in order to implement the "ultimate goal of TM as contributing to sustainable organizational performance" (McDonnell *et al.*, 2017, p. 116) in practice.

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APPENDIX

[Article 1] Figure A2.I:

Excerpt of the UEFA "Questionnaire on Youth Academies of Professional Football Clubs in Europe" (1/2)

Questionnaire on Youth Academies of Professional Football Clubs in Europe

Dear colleague,

In our continuous aim to strengthen youth development activities, we are currently addressing main organisational drivers for an efficient academy. As part of the process, we have set up this high level questionnaire on Youth Academies of Professional Football Clubs and kindly ask you for your collaboration. The questionnaire will address the following key topics: strategy, player management, organisation, personnel, football education, infrastructure, financing and quality management (required time: ca. 15-20 minutes).

Our sole focus are the aggregated results/insights – individual club data will not be made public. The derived aggregated analysis results and implications (fully anonymised and no reference to any club) can be shared, if interested.
In case of questions or remarks, please contact us at youthdevelopment@uefa.ch .

We count on your kind collaboration and remain with warm regards
Youth Development Team

CLUB

*** Please indicate the full club name (country):**

Please indicate personal details:

*** Name:**

*** Function:**

*** Email:**

[Article 1] Figure A2.I:

Excerpt of the UEFA "Questionnaire on Youth Academies of Professional Football Clubs in Europe" (2/2)

Questionnaire on Youth Academies of Professional Football Clubs in Europe

I. BUSINESS MODEL / STRATEGY

I.1 Overall Club Strategy

*** 1 Please indicate the currently implemented business model of the club (i.e., defined by economic drivers in accordance with the renowned ECA Club Management Guide)**

- ○ Focus/dependency on benefactors (e.g. owner-benefactor, government support, external donations)
- ○ Focus/dependency on prize money/sporting results (e.g. UCL qualification)
- ○ Focus/dependency on commercial activities (e.g. sponsoring/broadcasting)
- ○ Focus/dependency on player trading
- ○ Focus/dependency on youth development

*** 2 Please indicate the importance of the following components as prospective business strategy components for the club (i.e., defined by economic drivers in accordance with the renowned ECA Club Management Guide)**

	not at all important (1)	of little importance (2)	of average importance (3)	very important (4)	absolutely essential (5)
Benefactors	○	○	○	○	○
Prize money	○	○	○	○	○
Commercial (incl. sponsoring/broadcasting)	○	○	○	○	○
Player trading	○	○	○	○	○
Youth development	○	○	○	○	○

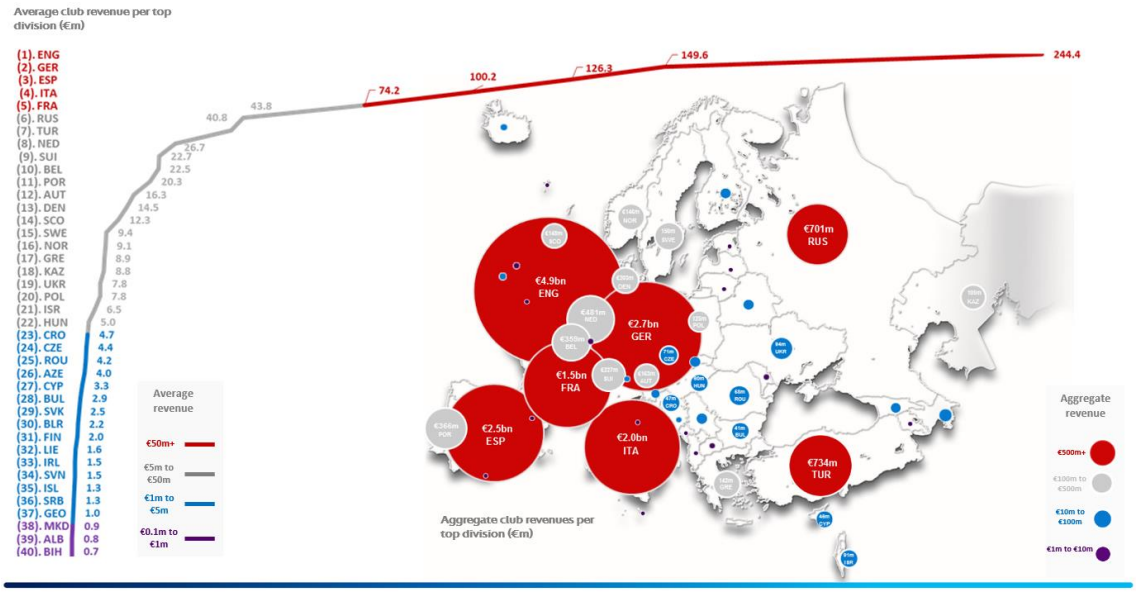
I.2 Youth Academy Strategy

*** 3 Please indicate the club's main objective of its youth academy**

- ○ Development of home grown players for the first team (sporting)
- ○ Winning and achieving top results with the youth teams (sporting)
- ○ Generating revenues by selling home-grown talents (commercial)
- ○ Social (e.g. focus on contributing to society)
- ○ Other

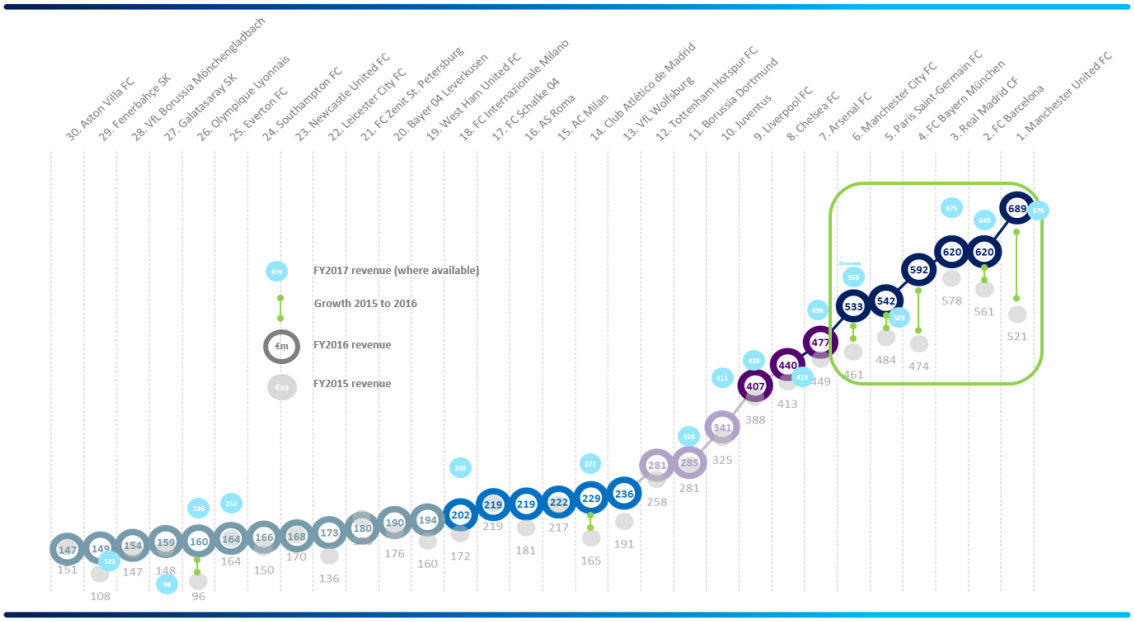
[Article 1] Figure A2.II:

European Club Revenues by League (FY2016)
[Excerpt UEFA Benchmarking Report 2018 (UEFA, 2018a, p. 59)]



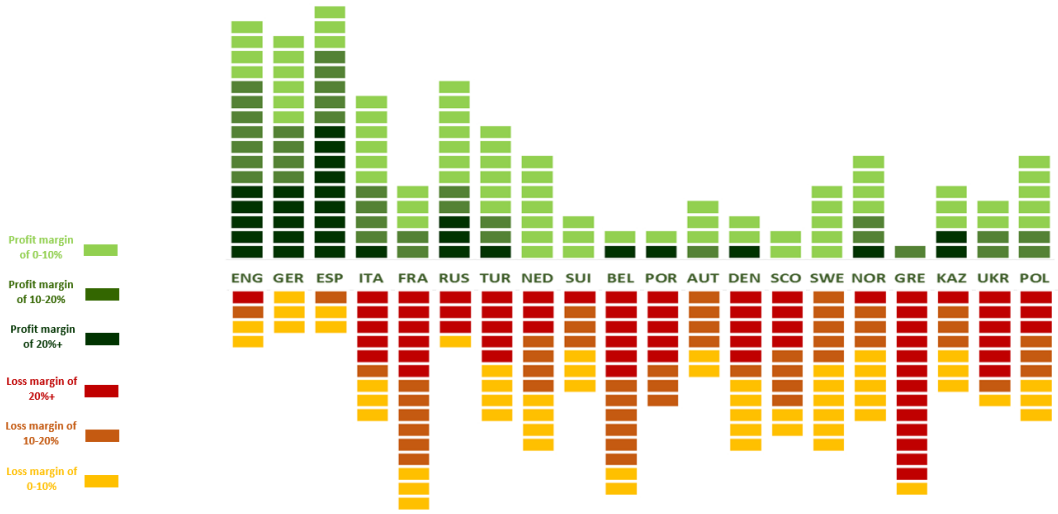
[Article 1] Figure A2.III:

Revenues of the Top 30 European Clubs (FY2016)
[Excerpt UEFA Benchmarking Report 2018 (UEFA, 2018a, p. 61)]



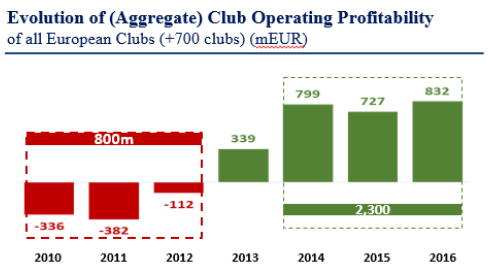
[Article 1] Figure A2.IV:

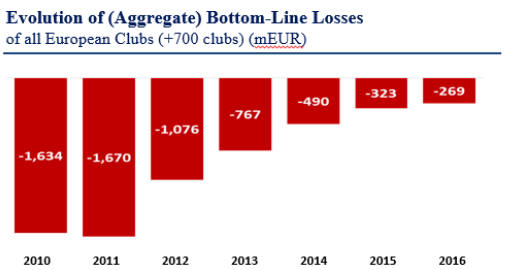
Operating Profitability within the European Top 20 Leagues (FY2016)
[Excerpt UEFA Benchmarking Report 2018 (UEFA, 2018a, p. 106)]

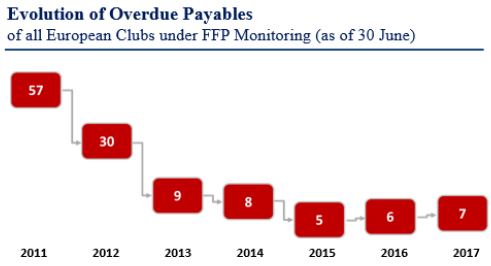


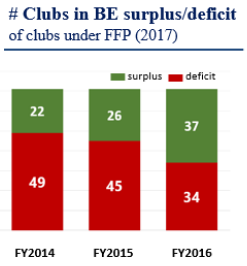
[Article 1] Figures A2.V:

Impact of the UEFA Financial Fair Play Regulations
[Excerpt UEFA Benchmarking Report 2018 (UEFA, 2018a) and CFCB IC Bulletin (CFCB IC, 2015, 2018)]









[Article 3] Table A4.I: Impact of Personality Traits on Performance in a Pivotal Talent Pool (Random Effect Model)

DEPENDENT				OVERALL PERFORMANCE			SUPERIOR PERFORMANCE		
Model	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
TD Phase	***ALL***	***ALL***	***ALL***	***Junior***	***Mid***	***Senior***	***ALL***	***ALL***	***ALL***
Personality									
C/ACHI	1.671	1.750	1.964				(2.054)	(1.391)	**(4.163)†**
	1.417	*1.431*	*1.400*				*3.611*	*3.788*	*2.276*
S/RESI	1.308	.625	.297				**6.226†**	**6.180†**	**5.826***
	.963	*.996*	*1.017*				*3.222*	*3.313*	*2.678*
S/SELF	**4.709*****	**3.885*****	**3.968*****	.469	**3.170***	**6.216*****	.436	.359	.130
	1.036	*1.035*	*1.031*	*1.614*	*1.580*	*1.480*	*2.281*	*2.279*	*1.934*
E/ASSE	.808	(.720)	(1.202)				2.601	2.847	3.355
	1.090	*1.102*	*1.109*				*3.193*	*3.418*	*2.760*
O/CREA	.916	(1.630)	(1.707)				**5.455***	**6.102***	**4.303†**
	.998	*1.174*	*1.190*				*2.630*	*3.058*	*2.420*
A/COLL	.341	.409	.553				(2.373)	(3.413)	.383
	1.153	*1.136*	*1.132*				*2.528*	*2.588*	*2.263*
Controls									
SUPR	1.397	(.423)	4.179				(implicit)	(implicit)	(implicit)
	4.961	*5.131*	*5.615*						
SKIL		**8.342*****	**8.929*****	**8.361****	**8.723*****	**6.683***		(1.822)	
		2.123	*2.130*	*2.916*	*2.219*	*2.632*		*5.615*	
UPSP		(1.514)						(.548)	
		1.129						*3.665*	
TDP1 (junior) vs. *senior*			**11.644*****						(10.048)
			3.126						*17.114*
TDP2 (mid) *vs. senior*			**8.506****						**(29.572)*****
			3.061						*4.850*
Constant	(13.597)	(30.886)**	(39.937)***	(.722)	(23.230)†	(35.448)*	(48.844)†	(38.236)	(32.943)
R2	.1764	.2108	.2185	.1424	.1479	.2656	.1777	.1763	.4186
Observations	600	600	600	112	304	184	82	82	82
Groups	203	203	203	51	122	85	69	69	69

Notes: †p<.1 *p<.05 **p<.01 ***p<.001; robust standard errors in italics