

Crowdfunding as Financing Tool of Semi-professional Sports Clubs: Evidence on Funders' Preferences and Typologies

By Christopher Huth* & Markus Kurscheidt[‡]

Due to the official regulatory credit screening procedures of Basel II and Basel III in Europe, credit is now more difficult to obtain. As a consequence, alternative financial mechanisms, such as crowdfunding, that focus on sports clubs' supporters have become more important. The aim of the present study is to evaluate crowdfunding related to sports clubs using a choice-based conjoint analysis (CBCA) to detect project- and participant-related success factors in successful financing. Therefore, two fictitious crowdfunding projects with the offered return and the price are chosen as features and two German sports clubs – one ice hockey club and one football club – are selected for the analysis. Using segmentation techniques, the study also examines the types of crowdfunders and their preferences. The results show that the offered return and the price are the two most important features for potential crowdfunders. They prefer either a club-related return containing a certain economic value or the donation as representative of a more altruistic return. The findings also indicate that crowdfunding can be a financial instrument for both semi-professional and professional clubs.

Keywords: *crowdfunding, financial instrument, sports clubs, semi-professional clubs, professional clubs*

Introduction

In general, semi-professional and professional sports clubs are searching for alternative financial mechanisms to fund their various activities. Despite their popularity, sports clubs – both amateur (Breuer and Wicker 2009) and professional (Storm and Nielsen 2012) – face many financial challenges in today's economic environment. The economic situation is particularly tense in European football, as demonstrated by Hamil and Walters (2010) for English clubs and by both Boscá et al. (2008) and García and Rodríguez (2003) for Spanish clubs. Paradoxically, football's financial crisis of loss-making coincided with dramatic increases in revenue in the sport (Lago et al. 2006). The problem originates in the imbalance between income and expenditures, which has led to rising debt (Barajas and Rodríguez 2013, Müller et al. 2012).

To raise new funds, some highly capitalized European football clubs have undertaken initial public offerings (IPOs; Benkraiem et al. 2011). In addition, twelve different German football clubs have issued so-called fan bonds since 2004 (Huth 2014). In addition to institutional investors, both of these fund-raising

*Professor, Bundeswehr University Munich, Germany.

[‡]Professor, BaySpo - Bayreuth Center of Sport Science, University of Bayreuth, Germany.

mechanisms focus on the club's target group – supporters. Previous studies underline that fans of sports clubs act altruistically and that precarious financial circumstances can even make fans more likely to invest in order to support their clubs (e.g., Huth et al. 2014, Schwendowius 2002). Additionally, traditional investment objectives are more or less irrelevant for supporter-involved financial instruments (Huth 2020). Therefore, alternatively, crowdfunding – which also focuses primarily on fans or supporters – might be a useful supporter-oriented financial mechanism for sports clubs. Crowdfunding began in private culture and in the creative economy (Martinez-Cañas et al. 2012) and is primarily employed to finance movie and music projects. However, crowdfunding is also used today to fund projects in the non-profit sector and private-sector start-ups (Meinshausen et al. 2012). Recently, crowdfunding has made its entrance into the sports world (Novak 2017). The Jamaican bobsleigh team used crowdfunding to collect USD 129,687 to compete in the Sochi 2014 Winter Olympic Games (Crowdtilt 2014). Especially International Olympic Sport Federations with less funding had a significantly more innovative approach so that crowdfunding projects were implemented in their sport, but mostly at individual and local levels (Crespo et al. 2022).

Therefore, the present study evaluates crowdfunding related to sports clubs using a choice-based conjoint analysis (CBCA) to detect project- and participant-related success factors in successful financing. Using segmentation techniques, the study also examines the types of crowdfunders and their preferences. Additionally, the study discusses whether crowdfunding has the potential to be an effective financial mechanism for funding both semi-professional and professional sports clubs by comparing crowdfunding with existing supporter-oriented financial mechanisms (such as IPOs and fan bonds) to detect potential advantages and disadvantages.

This paper broadens the literature considerably. In general, previous published studies that have focused on crowdfunding in sports are rare. To date, economic-related crowdfunding studies have primarily concentrated on crowdfunding in other sectors. However, focusing on financing naming rights of sport stadia through crowdfunding Huth (2018a, 2018b) shows that participants who identify with the project are generally the most willing to participate in a crowdfunding project and that crowdfunding can actually be seen as a supporter-based instrument that is an alternative to existing sport facility naming rights models. However, a better understanding of crowdfunding is necessary for it to develop into a more useful financial mechanism for sports clubs – far from stadium naming rights in professional sports. In particular, ambitious semi-professional sports clubs rely on alternative financial mechanisms because they do not have the financial and administrative resources to undertake an IPO or issue bonds on the capital markets because of the associated transparency and publicity requirements. Therefore, the aim of this study is to illuminate whether and how sports clubs can use crowdfunding and to identify key success factors related to crowdfunding. In this context, it is important to know how to detect project- and participant-related success factors and to examine the types of crowdfunders and their preferences. For this, two ambitious semi-professional sports clubs are considered in the present

analysis. However, the aim is that the results also yield practical implications for professional clubs.

This paper is structured as follows. After the introduction including the aims of the paper, there is a short review of previous research on the funding of sports clubs, the role of crowdfunding in corporate finance and investors' behaviour in the context of both sports clubs and crowdfunding. The method used in this study is presented in detail in the section that follows, and the analytical results come after. The next section interprets the results and highlights their implications. Finally, the paper ends with a short conclusion highlighting the limitations of this study and proposals for further research.

Literature Review

Understanding the traditional model of the yield-oriented homo oeconomicus is the first step to explain investors' behaviour. A model extension is so-called Behavioural Economics. This model expands the neoclassical theory to include the psychological and behaviour-oriented aspects of investors. In sports, investments are driven primarily by emotional motives instead of financial objectives (Gorman et al. 1994, Korthals 2005). Using fan bonds, Huth et al. (2014) provide empirical evidence of the importance of emotional motives in sports investments. They show that fan investors primarily aim to support their club and that maximizing returns and minimizing financial risk are less important objectives. Another study has identified the success factors of a bond issue from the club's perspective, and its results indicate that supplying decorative certificates and a reasonable denomination (from €100 and higher) are essential to securing the participation of a large number of supporters (Huth 2014). Other studies have found that decorative certificates, which can be understood as sports merchandise, support participants' investment behaviour (Hopt 1991, Rohlmann 2000, Schiereck and Wolfenstetter 2011). Optiz (2003) shows that shareholders of football clubs have few shares per capita and concludes that financial motives are less important. In addition, Weimar and Fox (2012) and Optiz (2003) demonstrate that the investment decision is made independent of the club's financial situation. As mentioned before, Schwendowius (2002) supposes that sports investors act altruistically so that their investment resembles a donation more than an investment. Sports clubs' precarious financial circumstances can even make *fanvestors* more likely to invest in order to support their clubs (Huth et al. 2014), and supporter loyalty makes the club more or less a supply monopolist (Szymanski and Kuypers 2000, Frampton et al. 2001). In the context of crowdfunding and naming rights, findings indicate that the most involved participants who support traditional values in sports are the most willing to participate in a crowdfunding project (Huth 2018b). However, Huth (2018b) indicates that the sums that can be generated through crowdfunding are limited.

Focusing on the financial instruments that are used by sport clubs, credit has been the primary means of financing (Keller 2006). Of course, due to the official regulatory credit screening procedures of Basel II and Basel III in Europe, credit is now more difficult to obtain (Ehrmann 2012, Müller et al. 2006, Keller 2006, Kern

2007). As a consequence, alternative financial mechanisms that focus on sports clubs' supporters have become more important in recent years (Ernst & Young 2009, Leki 2004). Thus, the supporter is considered to be not only a fan of the club but also a potential investor. IPOs and issues of participation certificates or bonds are the typical means of engaging in supporter-oriented financing. IPOs involve equity financing and allow the investor to obtain a share of the club's profits and to have voting rights (Gramatke 2003, Suciu-Sibianu 2004). IPOs do not only provide an immediate injection of capital for sports clubs but they can also allow access to capital markets in the future (Gerrard 2009). Previous research has shown that the financial performance of football clubs, on average, did not improve following an IPO (Baur and McKeating 2011). Meanwhile, numerous football clubs have delisted due to liquidity problems and excessive share price volatility (Benkraien et al. 2011) which is influenced primarily by significant match results (Dobson and Goddard 2002, Morrow 1999). Participation certificates are loan capital and guarantee a mostly fixed financial return without any voting rights (Dworak 2010, Keller 2006). In sports, bonds are often called fan bonds (Gros and Huth 2013, Hasler 2013). Typically, sports clubs issuing fan bonds do not attempt to attract the attention of institutional investors and instead focus on supporters as investors.

An alternative to supporter-oriented financial mechanisms is crowdfunding. The origin of crowdfunding is related to the term crowdsourcing, which describes the phenomenon of the outsourcing of company-relevant tasks to a wide, external crowd by a public call (Howe 2009). Crowdsourcing assumes that a large group generates higher value based on aggregated possibilities (Howe 2009), and the internet has been an important catalyst for this development (Brabham 2008, Wojciechowski 2009). A special form of crowdsourcing is crowdfunding ("crowd" and "funding"). Crowdfunding can be used to generate financial resources for earmarked projects. Customers thus act not only as consumers but also as investors and are integrated into the value chain accordingly (Kleemann et al. 2008, Ordanini et al. 2011). The supporter of a given project receives a return – whether monetary or non-monetary – as a result of their investment (Mollick 2013). Companies' central motive to engage in crowdfunding is capital allocation, which is mostly a supplement to other financial instruments (Belleflamme et al. 2010, Belleflamme et al. 2013). Current practice demonstrates that only limited sums can be raised by crowdfunding and that projects with lower target sums have been most successful in the past (Mollick 2012). Increasing the clubs' prominence is another motive of the initiators (Lambert and Schwienbacher 2010); especially when the company and their products are not well-known in the market. Attaining indirect feedback and customers' preferences regarding their own products or services is another advantage (Belleflamme et al. 2010, Lambert and Schwienbacher 2010, Schwienbacher and Larralde 2010). From a financial and administrative perspective, the risk of the loss of corporate control is reduced by crowdfunding (Gerber and Hui 2013).

Participants in crowdfunding projects are likely to have diverse motives. Iyer et al. (2009) demonstrate that participants consider hard financial facts to evaluate a project, and their actions are comparable to common banks or venture capital

firms. Attractive rewards or returns (Gerber et al. 2012, Lambert and Schvienbacher 2010) and the social and intrinsic motives of participants (Lambert and Schvienbacher 2010) are also considered in their decision-making processes. Ordanini et al. (2011) underline the great relevance of identifying with the project or the project initiator. Guo (2011), Gerber et al. (2012) and Gerber and Hui (2013) confirm these findings and add that the pleasure of helping and social perception are also relevant. In light of supporters' altruistic motives, crowdfunding would seem to fit non-profit projects better (Brady et al. 2002), which can be explained by the higher integrity of these projects due to the absence of the pursuit of profits (Belleflamme et al. 2010, Lehner 2013). Additionally, the influence of peers (herding behaviour) is an important factor for participants (Herzenstein et al. 2010, Zhang and Liu 2012). Finally, the probability of participation depends on socio-demographic features of both the initiator (Pope and Sydnor 2008) and the participant (Herzenstein et al. 2008). In summary, investors' behaviour in crowdfunding is noticeably similar to investors' behaviour in the sports-related literature, which leads to the hypothesis that crowdfunding might be a suitable alternative to the financial mechanisms currently used for sports club financing.

Methodology, Research Design and Data Analysis

CBCA was selected for the empirical evaluation undertaken in this study. In general, conjoint analyses are used to identify individuals' willingness to pay. The participants are directly asked not about the price but about their preferences with respect to products or services. The quality of the results depends on the choice of an adapted conjoint procedure (Green et al. 1993). The most common methods are traditional conjoint analysis (TCA), adaptive conjoint analysis (ACA) and CBCA (Sattler and Hartmann 2008, Wittink et al. 1992a).

After initial attempts were made to conduct conjoint analysis in the 1920s (Green and Srinivasan 1978), studies by Debreu (1960) and Luce and Tukey (1964) led to the origin of TCA. ACA, which can be traced back to the work of Johnson (1987), is an improvement on TCA that integrates more attributes and features (Hillig 2006). ACA is a hybrid conjoint procedure that combines compositional and decompositional approaches (Green et al. 1981). CBCA expands TCA with a different selection situation and the non-choice option. McFadden's (1981) discrete choice approach forms the basis for the conception of CBCA by Louviere and Woodworth (1983). Due to the non-option, CBCA is best suited for simulating real purchase decisions (Balderjahn et al. 2009). However, CBCA has weaknesses in the individual analysis and, as a result, limited possibilities with market segmentation (Backhaus et al. 2011). However, following the development of the latent-class approach and the hierarchical Bayes method, this disadvantage has been overcome (Gensler 2006, Völckner et al. 2008). Therefore, CBCA can be understood as an appropriate approach to measure the willingness to pay (Orme 2013) and to segment the market (Wittink and Cattin 1989, Wittink et al. 1992b). For market segmentation, CBCA forms different groups with different needs and perceptions (Desapro et al. 1995). Market

segmentation can be divided into a priori and a posteriori segmentation, in which the a priori segmentation does not guarantee that the clusters formed have homogenous utility structures or differ from one another significantly (Green and Krieger 1991, Moore 1980). The a posteriori segmentation forms clusters with a homogenous utility structure (Haley 1984, Wind 1978) and integrates socio-demographic factors to characterize the identified segments.

In the following, the objects of inquiry – two semi-professional German sports clubs – are presented. Then, the research design and the questionnaire, including data collection, are presented. The research design focuses on issues concerning CBCA's features and characteristics, the composition of selection situations, the determination of the choice design, the chosen method of analysis and the disaggregation of utility values.

Objects of Inquiry

Two German sports clubs – one ice hockey club and one football club – were selected for this evaluation and to generate an appropriate sample size. The football club plays in the fourth-highest ranked football league, whereas the ice hockey club is located in the third-highest hockey league. Therefore, both clubs can be classified as semi-professional and cover both amateur and professional clubs to a certain degree. The clubs were selected because they have long histories – including in higher and more professional leagues – and have ambitions to move up in league in the coming years. Both clubs are leaders in their region and are important pillars in their leagues. Their current league levels may not last because their brand and location have the potential to move up over the medium to long term. The football club has 650 members and four different supporter clubs. Home matches have 1,300 spectators per game, on average. The ice hockey club has 243 members, four supporter clubs and an average per-game attendance of 1,600 spectators. The clubs are similar to one another to avoid any mismatch between the two.

The clubs were also selected because the demand for alternative financing mechanisms is much higher for minor league clubs, as they do not have the opportunity to generate high sponsor revenues or issue bonds. Therefore, a modern and novel approach to financing sports clubs plays an important role not only for highly capitalized professional sports clubs but also for ambitious semi-professional clubs.

CBCA's Features and Attributes

Relevant features and attributes were specified to construct the CBCA's design. These features are the basis for the fictitious crowdfunding projects. Several requirements were considered regarding the choice of features and attributes. From the club's perspective, the features must be independent, influenceable and realizable. The potential crowdfunders' features and attributes must be easily understandable and relevant to their preferences. On the model level, they should

be in a compensatory relation in order to form preferences independently and not as a criterion for exclusion (Weiber and Mülhaus 2009).

For the present study, the project, the offered return and the price were chosen as features. A non-profit and a commercial project were selected for the fictive projects. Considering the findings of Brady et al. (2002), the non-profit project tested whether crowdfunding also fits non-profit projects in sports better or whether an orientation towards professional activities is dominant. The non-profit project consisted of supporting clubs' youth work. The commercial project focused on the financial support of clubs' professional squad. On the basis of the first fifteen most successful projects of the German sports crowdfunding platform fairplaid.org, the returns offered and the price brackets were derived from the previous decision-making behaviour of crowdfunders. As discussed above, attractive returns are crucial for successful crowdfunding projects (Gerber et al. 2012, Lambert and Schwenbacher 2010). The returns offered included a VIP ticket for a home game of the professional squad, being mentioned as a crowdfunder on the club's homepage and Facebook site and an Amazon voucher worth €15. The fourth alternative is the donation, i.e., no return, to consider the purely altruistic behaviour of sports fans (Huth et al. 2014, Schwendowius 2002, Storm and Nielsen 2012). The three other returns cover a monetary-focused return (voucher), a club-focused return (VIP-ticket) and a return that focuses on the social perception of the potential crowdfunder (public acknowledgement). Therefore, the offered returns cover a wide range of possible reasons for participation. Six different prices were used for the price feature. In line with Mollick (2012), the analysis of the fairplaid.org projects demonstrated that successful projects had many small monetary contributions. Only 4.86% of the fairplaid.org crowdfunders were willing to pay more than €50. Therefore, €50 is the highest sum, and the other five price brackets are €5, €10, €20, €30 and €40. Table 1 summarizes the chosen items.

Table 1. *Selected Features and Their Attributes*

Feature	Attribute	Description
Project	Commercial project	Support of the professional squad
	Non-profit project	Support of clubs' youth work
Price	5 euro	Considered price brackets
	10 euros	
	20 euros	
	30 euros	
	40 euros	
	50 euros	
Offered return	VIP ticket	VIP ticket for a home match
	Mention	Mention on club's homepage and social media channels
	Amazon	Amazon voucher worth 15€
	Donation	Donation without any return

Composition of the Selection Situations

In total, three features with two, four and six attributes were selected; thus, 48 different stimuli can be created by combining the attributes. A complete factorial design was selected to obtain optimal estimation quality (Backhaus et al. 2013). However, a high number of stimuli can cause fatigue (Sattler and Hartmann 2008). In the present study, the participants received three stimuli or the non-choice option per selection situation, leading to 16 decisions in total. A fixed-choice task or a hold-out task was included to validate the forecast validity. This task was presented to each participant without including it in the real analysis (Gensler 2006). Using the number of choice sets and Johnson's rule, the appropriate sample size was a minimum of 250 participants (Orme 2013).

Determination of the Choice Design

For the study's choice of design, the quality criteria included orthogonality, level balance, minimal overlap, and utility balance (Huber and Zwerina 1996). A complete factorial design automatically fulfils the quality criteria of orthogonality. The level balance indicates that all feature characteristics are used equally often in the choice set (Hensher et al. 2005). Otherwise, a number of level effects occur (Currim et al. 1981, Steenkamp and Wittink 1994). In the present study, the price feature was comprised of more characteristics than the other features so that the level effect had to be considered. The quality criteria of minimal overlap means that an attribute is not used several times within a choice task (Eggers and Sattler 2011). However, the feature project had only two characteristics so that overlaps could not be eliminated. To avoid overlaps in other features, an orthogonal design for the 48 stimuli was identified by SPSS. The quality criteria of the utility balance means that the stimuli of a choice set should have similar utility values and have no dominant stimuli (Huber and Zwerina 1996). Therefore, the aim was to generate balanced choice situations via shifting. The efficiency was verified by the D-efficiency (Kuhfeld 1997, Kuhfeld 2010), which was 100 in the present study, which indicates that the choice design was maximally efficient.

Analysis Method

The configuration of the analysis method consisted of the specification of a benefit model and a choice model to explain participants' behaviour. On the basis of these behavioural models, the partial, individual benefits were mathematically estimated (Backhaus et al. 2013). An additive or a compensatory partial individual benefit model was used (Figure 1).

Figure 1. Used Additive Part-worth Utility Model with Features as Binary Variables

$$u_{kr} = \sum_{j=1}^J \sum_{m=1}^{M_j} b_{jm} \times x_{jkmr}$$

u_{kr} : utility of alternative k in selection situation r
 b_{jm} : part utility of attribute m of feature j
 x_{jkmr} : 1 if alternative k has in situation r the attribute m regarding feature j; 0, otherwise

Source: Backhaus et al. 2013, p. 187.

Next, the price was displayed by the part-worth model to calculate relative importance. However, price is a quantitative feature. Therefore, the utility of the price was displayed in the second figure by a vector model to identify the willingness to pay and to calculate more exact generic price coefficients.

Figure 2. Used Additive Part-value Utility Model with Price as a Metric Variable

$$u_{kr} = \sum_{j=1}^J \sum_{m=1}^{M_j} b_{jk} \times x_j + b \times P_{kr}$$

u_{kr} : utility of alternative k in selection situation r
 x_j : 1 for $j = k$; otherwise 0
 b : benefit impact of the price (price coefficient)
 P_{kr} : price of alternative k in selection situation r

Source: Backhaus et al. 2013, p. 246.

The price coefficient b indicates the utility change in terms of one unit of the price. It is assumed that utility decreases with higher prices. Under this assumption, the calculated price coefficients are $b < 0$ (Backhaus et al. 2013).

The choice model describes the probability that a person decides on the basis of the perceived utility for a given alternative. Using CBCA, the logit choice model was considered. In the present study, there are more than two alternatives of one-choice situations. Therefore, the logit choice model was expanded to the multinomial logit choice model (Backhaus et al. 2013).

Figure 3. Multinomial Logit Choice Model of CBCA

$$\begin{aligned} \text{prob}_i(k|k' \in CS) &= \frac{e^{\beta_i \times u_{ik}}}{\sum_{k \in CS} e^{\beta_i \times u_{ik}}} \\ &= \frac{1}{1 + \sum_{k' \neq k \in CS} e^{-\beta_i \times [u_{ik} - u_{ik'}]}} \end{aligned}$$

u_{ik} : utility of alternative k of person i
 β_i : rationality parameter

Source: Backhaus et al. 2013, p. 190.

Selection probability was determined by the differences and not by the absolute amount of the utility of the alternatives. The alternative's selection probability depends on the utility of all alternatives in a choice situation. The differences between the utility values were quantified by the rationality parameter β . A β of 1 was used because β is not to quantify (Backhaus et al. 2013). The utility of the price was displayed by the Price-logit model to calculate the willingness to pay (Figure 4).

Figure 4. Price Logit Model of CBCA

$$prob_i(k|k' \in CS) = \frac{e^{u_k}}{\sum_{k' \in CS} e^{u_{k'}}} = \frac{e^{a_k + b \times P_k}}{1 + \sum_{k' \in CS} e^{a_{k'} + b \times P_{k'}}$$

u_k : utility of alternative k
 a_k : 1 if $j = k$; 0, otherwise
 b : benefit impact of price (price coefficient)
 P_k : price of alternative k

Source: Backhaus et al. 2013, p. 247.

Finally, the issue was to identify plausible part values to explain the choices as well as possible. To do so, the probability of a chosen alternative had to be as large as possible, which was achieved by maximizing the log-likelihood function in Figure 5 (Backhaus et al. 2013, Gensler 2006).

Figure 5. Log-likelihood Function for Estimating Utility Values

$$LL = \sum_{j=1}^J \sum_{k=1}^K \ln [prob_r(k)] \times d_{kr} \rightarrow max!$$

d_{kr} : $d_{kr} = 1$, when alternative k was chosen in situation r; 0, otherwise

Source: Backhaus et al. 2013, p. 195.

A value of more or less 0 indicates a choice probability of more or less 1. The determination of the maximum of the log-likelihood function was conducted by an iterative algorithm. The Microsoft Excel solver was used for the maximum likelihood estimation. The solver uses the Generalized Reduced Gradient algorithm. Controlling the results, the COXREG procedure of the SPSS Statistics 22 statistics program was used. The Cox regressions use the same model and calculate identical results (Backhaus et al. 2013).

The criteria of goodness of fit and forecast validity were used to control the quality of the utility values. Goodness of fit is verified by the likelihood ratio test and the Wald test if the utility values reflect the choice situation. In addition, goodness of fit was verified by the hit rate. The hit rate should be over 25%, which is the hit ratio of a random choice. The forecast validity indicates whether the utility values are suitable for predicting the choice of the hold-out task, measured by the hit rate of the hold-out task (Backhaus et al. 2013, Gensler 2006).

Disaggregation of the Utility Values

Utility values on an aggregated level have only limited validity. Therefore, utility values must be calculated on a disaggregated level. The latent class approach and the hierarchical Bayes method are available for a posteriori segmentation. Using a complete factorial design, the hierarchical Bayes approach was selected. The calculation of the individual utility values by the hierarchical Bayes method was conducted using the conjoint analysis module of the statistical software XLSTAT. Then, a cluster centre analysis on the basis of the calculated individual utility values without using the utility values of the none option was executed with the Ward method of SPSS (Decker and Bornemeyer 2009). The elbow criteria and a dendrogram were considered to identify the optimal number of clusters (Backhaus et al. 2013). The final allocation of the participants for the different segments was made by cluster centre analysis. The means of the 3-cluster solution in the hierarchical cluster analysis were used as starting values. A stable segmentation is achieved if no differences can be identified between the hierarchical cluster analysis and the cluster centre analysis (Müller 2004). Cohen's Kappa coefficient was used to validate the allocation of the participants (Bortz 1993, Eckey et al. 2002). Finally, segment-specific utility values plus socio-demographic and psychographic data can be used to characterize the identified segments.

Questionnaire

An online questionnaire was developed for cost reasons and easier production (Wright 2005). The internet does not guarantee a complete representation of all age classes. However, in this context, it seems to be the appropriate tool because crowdfunding is associated with and is popular on internet platforms, in particular. The online survey software Qualtrics was used for the implementation.

The questionnaire consisted of four parts. First, the participants were filtered by the two clubs so that questions about the other club could be skipped and the duration of the survey duration reduced. Second, participants' sporting affinity, relationship to the chosen club and attitudes as spectators were analysed via 5-point Likert scales (from 1 = do not agree to 5 = fully agree) to assess their attitude (Jones 2015, Revilla et al. 2014). In addition, they declared how many home and away matches of the club they attended per season and whether they were season ticket holders, fan-club members, club members and/or club sponsors. The aim of these questions was to understand the relationship between the participants and the clubs. As mentioned above, identification with the initiator of crowdfunding projects – here, the clubs – is highly relevant (Ordanini et al. 2011). In the third part – the survey's central part – two fictive crowdfunding projects were presented. Afterwards, the randomized CBCA was conducted. Here, the process was intensively explained to minimize the risk that the participants dropped out of the survey early. The socio-demographic data of the respondents were collected in the final part.

A pre-test with 20 participants was conducted to test the questionnaire to examine the questionnaire for comprehensibility, the effect of fatigue and balance of the choice tasks. The pre-test illustrated that the quality criteria of the balance of the choice tasks was compliant.

The survey was conducted from 17.02.2014 until 17.04.2014 via the internet. The link was posted on clubs' homepages, on social media – Facebook and Twitter – and on the clubs' fan pages. In total, 384 questionnaires were initiated, and 251 were completely filled out and used in the analysis.

Results

The mean age of the participants was 33 years (Table 2). Participants earned a net household income between 1,000 and 2,000 euros. In the sample, 83.60% of the participants were male. Club-oriented characteristics were measured by 5-point Likert scales, and these showed that participants were highly interested in sports and that they identified with their club. A quarter of the participants were season ticket holders, and one-fifth were members of one of the two clubs. In summary, the vast majority of participants were involved in the club. Finally, the median of the measured distance indicates that the participants were primarily from urban areas.

Table 2. Descriptive Statistics of the Sample

	Total sample
Participants	251 (100%)
General interest in sports	MV*: 4.65 SD**: 0.563
Interest in preferred sport	MV: 4.71 SD: 0.646
Identification with the club	MV: 4.03 SD: 1.115
Feeling of being part of the club	MV: 3.35 SD: 1.205
True supporter of the club	MV: 3.84 SD: 1.344
Attendance home matches	MV***: 3.67 SD: 1.497
Attendance away matches	MV***: 2.27 SD: 1.232
Other characteristics	Season ticket: 25.5% Fan-club: 12.35% Member: 19.52% Sponsor: 2.39%
Sex	male: 83.60% female: 16.40%
Age	MV: 33.00 years SD: 10.176 years

Net household income	MV***: 3.29 SD: 1.502
Distance (home/stadium)	MV: 24.21 km Median: 0,00 km SD: 61.173 km

*MV \triangleq mean value **SD \triangleq standard deviation *** 5-point Likert scale

Estimation of the Part Values on Aggregate Level

The analysis begins with the part values and the relative importance of the entire sample. The model indicates a high statistical significance (p -value $\alpha < 0.05$), which indicates that the null hypothesis is rejected. The hit rate is 35.76%, and the hit rate of the hold-out-task is 29.88%. With the exception of the 40-euro category, all coefficients are highly significant. The utility is represented in centre and off-centre forms (Table 3). The last attribute of a feature is used as a null category for the off-centre form to embed the part values. By using the calculated part values, the relative importance of the features is calculated as the difference between the highest and smallest part values of a feature.

Table 3. *Estimation of the Part Utility Values of the Entire Sample*

Feature	Attribute	Part value	Centred	Range	Relative importance
Project	Commercial project	-0.262	-0.131	0.262	14.65%
	Non-profit project	0.000	0.131		
Price	5 euros	0.812	0.337	0.812	45.45%
	10 euros	0.797	0.322		
	20 euros	0.657	0.183		
	30 euros	0.433	-0.042		
	40 euros	0.150	-0.324		
	50 euros	0.000	-0.475		
Offered return	VIP ticket	0.350	0.385	0.713	39.91%
	Mention on homepage/Facebook	-0.363	-0.328		
	Amazon voucher	-0.128	-0.093		
	Donation	0.000	0.035		
Non-alternative		0.446	0.137		
Price coefficient b		-0.019			

The calculated part utility values indicate that the price is the most important feature, followed by the offered return and the project. In terms of the project feature, the non-profit youth project ranks higher than the commercial project. The VIP ticket and the donation are preferred as returns. The Amazon voucher and the mention on the club's homepage and social media channels have negative utility values. The price coefficient of $b = -0.019$ indicates that lower prices increase the utility.

Segmentation of the Sample and Their Specific Part Values

The elbow criterion and the dendrogram identify three clusters. The segments formed are more or less equally large: The first segment is 32.27%, the second segment is 27.09%, and the third segment is 40.46%. The identified cluster affiliation of the participants by the cluster centre analysis is only slightly different from the cluster affiliation of the hierarchical cluster analysis. The high correlation of the identified cluster affiliations is confirmed by a Cohen's Kappa coefficient of 0.810, and the three cluster solutions are thus considered stable.

Next, the likelihood-ratio test or the Wald test and the hit rate are used to calculate segment-specific part values. The null hypothesis is rejected for all segments, indicating that all segments are highly significant. Furthermore, in segment 1, the hit-rate constitutes 43.98% of the value, and the hold-out task, 43.21% of the value. In the second segment, the hit rate is 53.68%, and the hold-out-task is 57.35%. In the third segment, the hit rate is 38.05%, and the hold-out task is 37.25%. The quality control of segment 1 shows that all coefficients are highly significant. In the second segment, all coefficients are highly significant, with the exception of the project feature. The coefficients of segment 3 are also highly significant with the exception of the 30 and 40 euro categories Table 4 illustrates the segment-specific part values in centre form.

Table 4. *Comparison of Utility Values of the Entire Sample and the Three Segments*

	Total sample	Segment 1	Segment 2	Segment 3
Project				
Commercial project	-0.131	-0.328	0.030	-0.105
Non-profit project	0.131	0.328	-0.030	0.105
Price				
5 euros	0.337	0.573	2.424	-0.611
10 euros	0.322	0.557	2.010	-0.088
20 euros	0.183	0.280	0.645	0.004
30 euros	-0.042	-0.006	-0.403	0.160
40 euros	-0.324	-0.538	-1.586	0.217
50 euros	-0.475	-0.867	-3.092	0.319
Offered return				
VIP ticket	0.385	0.571	1.080	0.275
Mention on homepage/Facebook	-0.328	-0.606	-0.752	-0.035
Amazon voucher	-0.093	0.194	0.982	-0.752
Donation	0.035	-0.159	-1.311	0.512
Non-alternative	0.137	-0.017	1.093	-0.005
Price coefficient b	-0.019	-0.033	-0.116	0.015

Price remains the most important feature in the first segment (see also Table 5). The second segment's price importance is even higher. The higher negative b-value of segment 2 indicates that it is more price sensitive than the two other segments. In the third segment, the return offered is the most important feature. The positive price coefficient of segment 3 indicates that raising prices increases the utility. However, it is expected that the utility value of segment 3 will decrease when

a certain amount is exceeded. Only the maximum willingness to pay in segments 1 and 2 can be calculated (Table 5). The maximum willingness to pay is achieved when the sum of the part values of a stimulus is less than or equal to the utility of the none option.

Table 5. Comparison of the Maximum Willingness to Pay of the Entire Sample and the Different Segments

Total Sample	VIP-ticket	Mention	Voucher	Donation
Commercial project	32.20 €	-5.30 €	7.14 €	13.63 €
Non-profit project	46.03 €	8.53 €	20.97 €	27.46 €
Segment 1	VIP-ticket	Mention	Voucher	Donation
Commercial project	34.30 €	-1.59 €	22.73 €	11.56 €
Non-profit project	54.20 €	18.31 €	42.63 €	31.46 €
Segment 2	VIP-ticket	Mention	Voucher	Donation
Commercial project	26.17 €	10.76 €	25.25 €	6.03 €
Non-profit project	25.61 €	10.19 €	24.68 €	5.46 €

Finally, the segments must be described with different customer characteristics to identify the rewarding consumers. Demographic and supporter-specific characteristics of the participants are considered (Table 6).

Table 6. Identified Segments and Their Descriptive Characteristics

	Demographic data		Link to the club		Viewer behavior		Relative importance and price sensibility	
Segment 1 81 (32.27%)	Age	MV: 32.26 SD: 9.954	identification with the club	MV: 3.98 SD: 1.224	home matches	MV: 3.52 SD: 1.590		
Price/performance-crowdfunder	Sex	♂ 85.19% ♀ 14.81%	part of the club	MV: 3.35 SD: 1.257	away matches	MW: 2.05 SD: 1.083		
	Net income	MV: 3.06 SD: 1.512	real supporter of the club	MV: 3.79 SD: 1.455	season tickets	19.75%		
	Distance	Median: 0.0 km			club member	17.28%		
Segment 2 68 (27.09 %)	Age	MV: 31.08 SD: 8.381	identification with the club	MV: 3.57 SD: 1.201	home matches	MV: 3.13 SD: 1.455		
price-sensitive-crowdfunder	Sex	♂ 80.40% ♀ 19.60%	part of the club	MV: 2.88 SD: 1.191	away matches	MV: 1.88 SD: 1.140		
	Net income	MV: 2.97 SD: 1.500	real supporter of the club	MV: 3.24 SD: 1.383	season tickets	13.24%		
	Distance	Median: 0.0 km			club member	13.24%		
Segment 3 102 (40.64 %)	Age	MV: 34.99 SD: 11.247	identification with the club	MV: 4.37 SD: 0.820	home matches	MW: 4.14 SD: 1.305		
charitable-crowdfunder	Sex	♂ 84.31% ♀ 15.69%	part of the club	MV: 3.67 SD: 1.075	away matches	MW: 2.71 SD: 1.279		
	Net income	MV: 3.69 SD: 1.417	real supporter of the club	MV: 4.28 SD: 1.038	season tickets	38.24%		
	Distance	Median: 0.0 km			club member	25.49%		

*MV△ Mean value **SD△ Standard deviation

The first segment can be described as “price/performance-crowdfunder”. The members of this segment identify with the club and are a part of the club. Regarding their preferences, price (43.99%) is the most important factor. The return offered and the project follow thereafter. The slightly negative price coefficient demonstrates that it is not mandatory to describe the segment members as price sensitive. However, price is both a limiting factor and the most important criterion. The VIP ticket is the most popular return, which receives a willingness to

pay 54.20 euros in combination with the non-profit youth project and 34.30 euros in combination with the commercial project (Table 4).

In the second segment, the club-supporter relationship is not as explicit as in the first segment. Thus, segment members are more sympathizers or neutrals than supporters. Regarding the features, the price (69.24%) is the dominant factor, followed by the return (30.01%). The project (0.75%) has no influence. In terms of the negative price coefficient of $b = -0.116$, the second segment is more price sensitive than the first.

Finally, segment 3 members have the strongest connection to the club. The offered return is the most important feature (52.56%), whereas the price (38.67%) is only the second most important feature. The project (8.77%) is less important. The relative low importance of the price and the positive price coefficient of $b = 0.0154$ suggests that members have a higher willingness to pay and are less price sensitive than the members of the two other segments.

Discussion, Implications and Limitations

Focusing on the project-related success factors, the calculated part values indicate that the offered return and the price are the two most important features for crowdfunders. The project itself does not play a major role. Considering the cited number of level effect for both price and return, the real importance may be more minor than calculated. However, both features are dominant, and the project is nearly negligible. Therefore, the project is not as important as described by the study of Ordanini et al. (2011). However, the non-profit project is more accepted than the commercial project. These results are consistent with previous findings by Brady et al. (2002), who underline the great relevance of non-profit projects. This result is also supported by the willingness to pay. The willingness to pay for the non-profit project is on average by 13.83 euros higher than for the commercial project over the entire sample. In line with Belleflamme et al. (2010) and Lehner (2013), non-profit projects seem to be more profitable because of the missing pursuit of profit and the resulting higher integrity. In addition to higher capital allocation, the clubs have a positive image effect when associated with the non-profit projects. On the basis of these results, sports clubs should use crowdfunding to finance non-profit projects, such as the development of their youth, in particular. Therefore, the non-profit project can be quantified as the first success factor for crowdfunding in sports.

Concerning the offered returns, the club-oriented return is preferred by the participants. Additionally, the donation is accepted as a return. There is lower acceptance of the voucher and the mention on club's homepage and Facebook site. Therefore, the participants prefer either a club-related return that contains a certain economic value or the donation as representative of a more altruistic return. This finding is most comparable to the decorative certificates of IPOs or fan bonds. They contain a certain economic value, but are simultaneously mostly used as merchandise articles by their holders, who do not necessarily collect the certificate's interest.

In terms of the club-related return, the example of the VIP ticket illustrates that the willingness to pay is higher for club-related returns than for external returns, such as the voucher. However, the costs are even higher for VIP tickets. Furthermore, the number of VIP tickets and therefore the potential financial returns are limited. In addition to VIP tickets, the clubs have the possibility to give other tickets but at lower prices. Nevertheless, external premiums such as vouchers also deliver a certain additional value for the clubs. However, clubs should attempt to reduce the cost of external premiums by integrating sponsors' products or services into their crowdfunding project, which might yield a win-win situation for both the club and its sponsors. However, sponsors' products or services must have a link to the club to fulfil the identified connection between the return and the club. In addition, the use of specialized crowdfunding platforms and their existing partners can also support clubs by organizing crowdfunding projects. As an alternative to the premiums of their sponsors or crowdfunding platforms' partners, clubs can also use merchandise articles (if available) for their crowdfunding projects. Immaterial, club-related returns, such as a meet and greet with the club's professional squad, can also be used.

In terms of donation, the results indicate that this option is most attractive from the club's perspective because of the favourable cost/benefit relationship. Other than administrative costs, clubs incur almost no costs for using donations. In the entire sample, the willingness to pay or donate is 13.63 euros for the commercial project and 27.46 euros for the non-profit project. The donation of higher sums generates a higher utility for crowdfunders of the first and third segment such that the donated sum should be freely selectable to exploit the maximum willingness to donate. Due to its attractive cost/benefit relationship, the donation should be the central component, particularly for non-profit projects.

The negative price coefficient indicates that low prices are more attractive than higher prices. These findings are consistent with those regarding fan bonds. Here, sports clubs specified that adequate denominations are essential to allocate sufficient financial capital. In line with Mollick (2012) and Schwendowius (2002), it seems that lower sums is also a success factor for crowdfunding projects in sports.

Associated with the price is the total sum that should be generated by crowdfunding. The platform fairplaid.org that was discussed above can be used as a reference. The projects financed in pure amateur sports show that between 200 and 20,000 euros can be allocated, with an average of 2,650 euros. Thus, crowdfunding in sports clubs is particularly appropriate for projects with low to middle levels of capital needs. In addition, this result reflects the findings of Mollick (2012), who argues that projects with lower target sums are more successful. However, it is expected that clubs in higher leagues with more supporters can generally raise more capital than pure amateur clubs or athletes. The real potential for more professional clubs is surely higher than the sums cited from fairplaid.org projects, such as the Jamaican bobsleigh team, who collected a six-digit amount.

The following segmentation showed that a deeper look into the data is necessary and useful to identify different types of crowdfunders in sports-related

projects. Focusing on the first segment, independently of the offered return, the willingness to pay is always higher for the non-profit project. It seems that this segment is willing to financially support their club to a certain degree. However, this group expects a reward for their money. Supporting their club is, therefore, the fundamental motivation to participate, but it is typically in combination with a certain economic value. The findings of the first segment support the results of Gerber et al. (2012) and Lambert and Schwienbacher (2010) regarding the important role of attractive returns. However, the identified emotional motives of Gorman et al. (1994) and Korthals (2005) are also important for first segment members. The price/performance crowd funders are comparable to the consumer-oriented supporters in Herberger et al. (2013). Following the authors, the club's financial sustainability is a priority for these supporters. Youth development may be evaluated as more sustainable than short-term investments in the professional squad.

In contrast to the first segment, the members of the second segment are only willing to invest in a limited range. In addition, segment members prefer returns with a certain economic value and do not distinguish between internal and external premiums or the project. The motivation to participate is driven more by economic value than the desire to support the club. These findings are comparable with those of the study by Iyer et al. (2009), which underlines the important role of economic facets in the decision making of crowd funders. The members of the second segment can be called "price-sensitive crowd funders". This group cannot be counted as *fanvestors* considering their weaker emotional link to the club. This segment contains parallels to the group of neutral investors in Huth et al. (2014). Both groups focus primarily on the economic value of the offered return. It is notable that the second segment is the smallest. However, the questionnaire in the study was distributed primarily by the clubs. Therefore, more supporters than neutrals participated on the survey. This segment should be larger in reality considering the entire population of the cities represented by the clubs, for example.

The positive price coefficient in the third segment indicates that the utility grows with rising prices. This effect is known as the snob and Veblen effects (Diller 2008, Simon 1992). However, it cannot be assumed that there is a snob effect in the present case. Instead, the price function has a comparable function course. The price may be an indicator of the strong relationship to the club. Regarding returns' utility, the donation has the highest value (Table 3), which leads to the hypothesis that segment members have altruistic motives that can also be an explanation for the positive willingness to pay. Regarding the other returns, the voucher is the most unattractive premium. Therefore, the economic value plays a minor role for this segment of crowd funders. Internal premiums such as the VIP ticket are more valuable, which also underlines their close relationship to the club. Thus, this segment best embodies the typical fanvestor. Both the fanvestor and the centred supporters (Herberger et al. 2013) have a great potential to be a financier of the club but without pursuing financial targets as maximizing returns. The support of their own club is central for both groups. Thus, the findings of segment 3 are most comparable with those of Guo (2011), Gerber et al. (2012) and Gerber

and Hui (2013), who posit that the pleasure in helping, which can also be understood as a consumptive motive, is a key factor for crowdfunders. Therefore, participation is more an act of consumption that generates a benefit regarding segment members' identification and support with the club than an act of investment with the aim of generating a financial return.

To achieve a successful capital allocation by crowdfunding, the clubs must address a wide range of potential participants. The charitable crowdfunder and price/performance crowdfunder, who are similar in socio-demographic and supporter-specific characteristics, are most important for the clubs because both have a high probability of participation. Due to their close connection with the club, members of both segments can be contacted by the club's homepage or other channels, such as social media and at home matches, because they regularly attend the club's games.

Crowdfunding can be a useful financial mechanism for both semi-professional and professional clubs. Semi-professional clubs cannot realistically issue bonds or go public because of the relative high issuance costs of these mechanisms. Therefore, these clubs must find an alternative and must operate more creatively. As described by Lambert and Schwienbacher (2010), crowdfunding can lead to a high publicity of the club so that more generally interested persons may be attracted by an interesting crowdfunding project.

Professional clubs should also not ignore crowdfunding. Fan bonds and IPOs have high bureaucratic burdens, particularly with respect to the issuance prospectus. Additionally, the average issuance costs of fan bonds are 3.8% of the intended bond volume (Fox and Weimar 2014). Crowdfunding can be a cost-effective and less bureaucratic alternative. Due to the greater number of supporters, participants' demands should be higher for professional teams. The figures of fan bonds indicate that sums in the 3-8 million euro range should be generated by crowdfunding projects. Considering the results of altruistic supporters in the context of sports clubs (Huth et al. 2014, Schwendowius 2002), similar developments can be expected for crowdfunding.

Conclusion

The present study illuminates success factors for crowdfunding in sports clubs. Furthermore, it identifies potential crowdfunders and indicates that they should have a certain link to the club to maximize the financial potential of a crowdfunding project. In line with previous studies (Huth 2018a, 2018b), the results show that crowdfunding can be a useful financial mechanism for both semi-professional and professional clubs.

Focusing on semi-professional clubs, it has to be mentioned that they cannot realistically issue bonds or go public because of the relative high issuance costs of these mechanisms. Therefore, these clubs must find an alternative and must operate more creatively. As described by Lambert and Schwienbacher (2010), crowdfunding can lead to a high publicity of the club so that more generally interested persons may be attracted by an interesting crowdfunding project.

Therefore, crowdfunding is a highly interesting financial instrument for semi-professional clubs.

In addition, professional clubs should also not ignore crowdfunding. Fan bonds and IPOs have high bureaucratic burdens, particularly with respect to the issuance prospectus. Additionally, the average issuance costs of fan bonds are 3.8% of the intended bond volume (Fox and Weimar 2014). In contrast, crowdfunding can be a cost-effective and less bureaucratic alternative. Due to the greater number of supporters, participants' demands should be higher for professional teams. The figures of fan bonds indicate that sums in the 3 to 8-million-euro range should be generated by crowdfunding projects. Considering the results of altruistic supporters in the context of sports clubs (Huth et al. 2014, Schwendowius 2002), similar developments can be expected for crowdfunding.

However, this crowdfunding study cannot address all the issues or answer all the questions. Therefore, further research is needed in certain topics. Four selected issues that are considered crucial are presented below.

The willingness to pay was measured by fictive projects. Transferring these findings to the identified willingness to pay for real projects is not possible without restrictions. Previous studies of Huth (2018a, 2018b) show that the real willingness to pay can be lower than in the present study. In contrast, Krupa et al. (2020) show that individual donations of people who support sport campaigns were relatively high in comparison to other categories. In future studies, the willingness to pay for other real sports club crowdfunding projects should be measured and compared with this study's findings to achieve a more detailed and clearer view.

Apart from this point, the measurements of the willingness to pay showed a positive price coefficient for the charitable crowdfunder. Therefore, it was not possible to calculate this segment's maximum willingness to pay or donate. It is expected that saturation – and therefore decreasing demand – will occur as prices increase. Through the integration of higher prices, the maximal willingness to pay can be identified in future studies.

In this study, the supporters of two clubs in the third and fourth highest divisions of their sports in Germany were surveyed. In future studies, sports clubs from other sports and other (higher) leagues should be evaluated. As demonstrated, the crowdfunding mechanism may be a cost-efficient alternative to existing mechanisms – including fan bonds or IPOs – for higher-ranked clubs. It would be worthwhile to evaluate the market potential of crowdfunding for these clubs in comparison to the two other mechanisms. However, clubs from other sports should also be considered because of the cost-efficient structure of crowdfunding.

Finally, the motives of potential crowdfunders in the area of sports can be evaluated and compared with results from other sports-related studies or from other areas, such as the music and film industries. Considering the returns offered for the crowdfunder, the present study considered four different returns in total. As discussed in the last part of the present study, other returns are also possible for sports clubs. Therefore, an important issue is to identify which returns are most popular for sports fans. Previous sales figures of merchandise articles can offer

helpful support for the initiators of a crowdfunding project if merchandise articles are also selected as an offered return.

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