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# Sport team brand-equity index: a new measurement

## INTRODUCTION

Marketing of sports and marketing through sports is an emerging phenomenon with revenues from this industry expected to grow at a rate of 4.5% to \$73.5 billion by the end 2019, just in North America, and which does not even represent half of global revenues (PwC Report 2015). The magnitude of revenues outside of North America can be gauged from the fact that sporting events such as the international soccer, European soccer leagues, Olympics, Indian Premier League, international cricket, tennis grand slams, Tour de France, UEFA Champions League, Formula 1, MotoGP and more recent Euro 2016/Copa America 2016 have tremendous global fan viewership, much more than prominent sports in US and Canada like baseball, NFL, NBA and Nascar, touching lives of millions of global sport consumers every year, making them spend their hard-earned resources to either personally attend or watch these events from home (Total Sportek 2016; Pouns, Murali, and Nyeck 2006; Gupta, Naik, and Arora 2013). Each sporting event has unique fan base, with different demographic and psychographic profiles and thus, interested brand marketers consider such sporting events as engaging platforms through which they can connect their brands to their respective target markets (Bennett and Lachowetz 2004).

Increased proliferation and commercialization of professional sport teams, in various old and new events, both one time (e.g. soccer world cup) as well as throughout-year ones (e.g. Formula 1), has led to enhanced efforts by sport managers to develop and maintain fruitful relations with their fans and other stake-holders, so that bottom-lines stay positive (Bauer, Sauer, and Schmitt 2005; Naik, and Gupta 2013a). Besides spectators, other stakeholders include participants, owners, team administration, governing bodies, financial stakeholders, and community at large. One of the ways to ensure a team's economic success,

and one laid heavy emphasis upon by team owners and managers, is team branding that ensures higher brand valuations and consequently a larger loyal fan base (Naik, and Gupta 2013b). The relation is evident as some of the biggest brands in sports are not only valued in billions of dollars but also enjoy the highest number of followers across the world. It has also been observed that higher loyalty of fans further ensures their involvement in the team's off-field activities (say buying merchandise, attending special events, etc.) and adds to a team's economic prowess, so much so that the sport itself becomes dependent on and driven by the most powerful teams, in form of not only fan following but also resultant benefits like television revenues, broadcast rights, etc. For example, for the 2014/15 La Liga season, Barcelona earned an estimated \$173 million from worldwide TV rights while lower teams like Eibar had to make do with \$15 million – a factor of 11.5 to 1 (McMohan, 2015). This discrepancy exists in all form of sports and thrives because of the huge fan following such teams have. In a survey by Gallup in 2013 conducted worldwide, it was observed that 56% of the respondents were watching a sport only because they were the fans of a particular participant team. In its July 2015 issue, Forbes announced the names of the world's most valuable sport teams that have established themselves as global brands beyond their on-the-field performance. Real Madrid tops the list with a current value of \$3.26 billion followed by Dallas Cowboys (\$3.20 billion), New York Yankees (\$3.20 billion), Barcelona (\$3.16 billion), Manchester United (\$3.10 billion) and many others. Researchers have, over time, argued that high team brand-equity can result into increased fan loyalty, global presence, differentiation of team, positive fan attitude and increased purchase intentions which ultimately lead to economic success and hence, it's important for team management to identify critical factors that have an impact on the success of the teams (Bauer, Sauer, and Schmitt 2005; Naik, and Gupta 2013a). Indeed, measuring and evaluating the equity of a team-brand on a continual basis is a required strategic manoeuvre by team managers. And

realizing the importance of this, plenty of scales have been developed in various academic works to measure a sport teams' brand-equity, based on the well-researched concept of consumer-based brand equity (CBBE) (e.g. Gladden, Milne, and Sutton 1998; Gladden and Funk 2002; Bauer, Stockburger-Sauer and Exler 2008; Villarejo-Ramos and Martin-Velicia 2007; Ross 2006; Ross, Russell, and Bang 2008). Just like the various iterations to develop scales for measuring CBBE, the scales for measuring spectator based team brand equity also use reflective indicators, some of them running in a large number of dimensions and each with similarly-worded indicators, which implies there is serious question on their coverage of the concept meaning as well as practical application (Diamantopoulos and Winklhofer 2001). Consequently, we make an effort to propose a robust, yet parsimonious sport brand-equity formative index which can be used to not only measure sport teams' brand equity, but also is more useful for practitioners.

Development of index is not same as traditional scale development and follows a substantially different way of validation (Diamantopoulos and Winklhofer 2001; Wang, Hsu, Hsu and Hsieh 2011). This research banks upon previous studies that have developed indices, for example retailer brand-equity index and brand equity index for hospitals by Arnett, Laverie, and Meiers (2003) and Wang, Hsu, Hsu and Hsieh (2011) respectively, to ensure a rigorous procedure. The paper is arranged as follows. We, first, introduce the concept of brand equity in sport, as well as a detailed discussion of how the index is constructed. The section after that gives information about methodology and results. In the final section, some strategic issues have been raised followed by discussion and conclusion.

## **LITERATURE REVIEW**

### **Brand-Equity in Sport**

The concept of brand equity emerged during 1980s and is now an important strategic driver for evaluating a firms' long-term performance (Sriram, Balachander, and Kalwani 2007). Brands are considered as one of the most valuable assets for companies and marketers adopt various strategies to build strong consumer based brand equity (Blackett, 1991; Emari, Jafari, and Mogaddam 2012). This increased interest in brand equity also reflects amongst academic researchers, and has manifested in a huge body of knowledge on brand equity with great variances about the ascribed meaning to this concept. Aaker (1991) described brand equity as the set of brand assets and liabilities linked to a brand adding to or subtracting from the value provided by a product or service to a firm and to the firm's customers. Yoo and Donthu (2001) built upon it by considering brand equity as the difference in consumer choice between a focal branded product and an unbranded product, given the same level of product features. A positive marketing outcome created by the branded product is responsible for high brand differentiation, high customer awareness, unique and favourable brand associations in customer memory, generating high customer based brand equity (Yoo and Donthu, 2001; Keller 1993).

Extant literature consistently suggests that brand equity should be an important topic of research because it is considered as the combination of key customer behaviour variables like loyalty, patronage, association, and trust (Yoo, 1996). To practitioners, brand equity is significant as it contributes positively to both long-term profits and sales (Yoo, 1996). Building strong brand equity is imperative in creating a point of differentiation to achieve competitive advantages for firms (Yoo et al., 2000). Literature and practice have consistently argued that brand equity increases the probability of brand choice, customer patronage behaviour, customer retention, and willingness to pay a price premium, as well as decreases vulnerability to competitive marketing action and an elastic response to price increases

(Aaker, 1991; Keller, 1993; Yoo, 1996). Besides, brand equity is also a crucial determinant in acquisition and merger decisions (Mahajan et al., 1994).

Rich applications in a variety of fields such as healthcare (Blackston 1992; Ferguson, Paulin, and Bergeron 2010), general services (Voss, Roth, and Chase 2008; Berry 2000), sportswear (Tong and Hawley 2009; Kocak, Abimbola, and Ozer 2007), promotion and celebrity endorsements (Dwivedi, Johnson, and McDonald 2015; Clayton, and Heo 2011), sponsorship-linked marketing (Carrillat, Harriss, and Lafferty 2010, Cornwell 2008), financial services (Taylor, Hunter, and Lindberg 2007), fast moving consumer goods (Netemeyer et al. 2004), automobiles (Tolba and Hassan 2009; Pappu, Quester, and Cooksey 2007), has also generated greater interest in its application in research on sports (Biscaia et al., 2016; Voshida, Gordon, Heere, and James 2015; Teed et al. 2009; Gupta, Naik, and Arora 2013). This is because commercialization of sport has extended it beyond the arena of play, and includes a wide variety of offerings, ranging from the sale of tickets and food in the stadiums to licensed products, media and broadcasting rights, infrastructure and sponsorships. A number of sport marketing ventures, like Brandwave, Chime Sports Marketing, Fenway Sport Management or Intersport, are emerging globally to leverage the benefits of sport commercialization (Ratten and Ratten 2011, Hernandez 2002).

Branding of sport teams has become the focal point of the marketing strategy with an objective to differentiate their teams and also developing competitive advantage through strong team brand equity (Ratten and Ratten 2011, Suckow 2008, Gladden, Irwin, and Sutton 2001). The benefits of building brand-equity of teams reflecting high purchase intentions of tickets and team merchandise, increased fan loyalty and economic success in longer run are well documented in some recent works as well (Biscaia, et al. 2016; Biscaia et al. 2013; Doyle, Filo, McDonald, and Funk 2013; Teed et al. 2009; Kerr and Gladden 2008; Emari, Jafari, and Mogaddam 2012, Bauer et al. 2005; Bauer, Sauer and Schmitt 2005).

Consequently, professional sport executives strategically manage their teams as brands and leverage its long-term benefits, something which can't be provided by performance alone (Suckow 2008, Ross 2006). In view of increased importance of branding of teams and the measurement of team brand equity for the marketing executives, researchers have developed frameworks aimed at measuring the brand-equity of sport teams using primarily reflective indicators (e.g. Gladden, Milne, and Sutton 1998; Gladden and Funk 2002; Bauer, Stokburger-Sauer, and Exler 2008; Kerr and Gladden 2008; Villarejo-Ramos, and Martin-Velicia 2007). One of the earlier efforts to do so was by Gladden, Milne and Sutton (1998) who used Aaker's (1996) multidimensional perspective for extension into sport brand equity and categorized antecedents of sports based brand equity into three classes: team related, organization related and market related while brand equity itself was measured by perceived quality, brand awareness, brand associations and brand loyalty in Division I college athletics. This work has been extended by several researchers like Gladden and Milne (1999) who added two more components to sport brand equity antecedents, logo design and stadium, for application of Gladden et al. (1998) framework in professional sport. Other researchers also contributed to this literature, for example Villarejo-Ramos and Martin-Velicia (2007) and Kerr and Gladden (2008), but while the framework by Gladden et al. (1998) was largely conceptual, the model for the latter mentioned works were developed from the perspective of an equipment manufacturer. Later, Biscaia et al. (2013) used a four step, multi-staged confirmatory factor analysis to measure the brand equity of a professional Portuguese soccer team among soccer fans using refined spectator-based brand equity (SBBE) scale and recognize the importance of experiential benefits and cultural differences that could impact sport brand equity. In a related work, Jang, Ko, and Chan-Olmsted (2015) developed spectator-based sports team reputation (SSTR) scale consisting of team performance, team tradition, team social responsibility, spectator orientation, management quality and financial

soundness to measure reputation of a sports team among fans having a potential to build brand-equity of sport teams and found that sport teams having high reputation have a positive fan trust and fan identification with the team. Recently, Biscaia et al. (2016) used the brand equity measurement scaled developed by Biscaia et al. (2013) and explored differences for team brand equity perceptions across fans (paid members) and non-members of a sport team that was found to impact fan's behavioural intentions.

Along with works mentioned above based on Aaker's (1996) conceptualization, Keller's (1993) definition of brand-equity has also been adopted by researchers for developing frameworks for sports brand equity. For example, team association model (TAM) by Gladden and Funk (2002) consists of 16 items to measure brand associations. Similarly, brand equity in team sports (BETS) scale by Bauer, Stokburger-Sauer, and Schmitt (2005) consists of 14 items. Later, Bauer, Stokburger-Sauer and Exler (2008) proposed a modified TAM and extended the concept to professional soccer teams with an upgraded BETS scale. All of these frameworks were criticized owing to their measurement of spectator attendance and motives and not really delving into team associations, critical to brand equity (Ross, James, & Vargas, 2006; Branvold, Pan, & Gabert, 1997). These limitations were covered by the team based association scale (TBAS) consisting of 11 sport team brand association dimensions proposed by Ross et al. (2006). Ross (2006) also proposed a conceptual spectator based brand equity (SBBE) model relating marketing strategies of a sports firm and its relationship to consumer-brand relationship which has been subsequently shown to affect long term revenues and profits. The beauty of Ross' (2006) work lays in the fact that it considers professional sports as a service in nature and includes customers' experience with sports services which previous models lack (Ross, Russel and Bang, 2008). Building on this work, Ross, Russell and Bang (2008) empirically tested SBBE framework to propose a reliable extended marketing mix that reflected effecting marketing efforts for a sports-related

firm, with consequential effects on brand awareness and brand associations. In their scale, Ross, Russell, and Bang (2008) adopted seven services marketing mix elements and proposed it to measure brand equity as made of brand association and brand loyalty (Keller, 1993). While brand association was measured by attributes like non-player personnel, team's success, history of the team, stadium/home of the team, team characteristics, logo of the team, concessions, socialization, team rivalry, commitment and organizational attributes, brand loyalty was conceptualized as a mix of team identification and team internalization. We delve into the meanings of these concepts later. Despite the detail of the model, as well as empirical support through adequate factor loadings and average variance extracted (AVE) values, the authors, somewhat erroneously base prediction-oriented arguments on a reflective second order model. As an example, they mention "*several dimensions were particularly predictive of their respective second order latent variables(LV). Success (.95) and Team characteristics (.91) were strongly predictive of the brand association dimension. This supports prior research on brand image in that the past reliability of a service has a strong influence on the image of that brand (Bebko, 2000). Specifically, the reliability of a sport team may be characterized as the consistency of a winning team. Interestingly, Socialization (.45) and Concessions (.48) were not found to be as strong in predicting brand associations*" (p.333). Such a statement can be made only when the higher order construct, as well as the first order ones, are conceptualized as formative constructs, flowing the causality from the item to the construct and not the other way round, as in the case of a reflective construct. Though rigorously developed, the authors suggest validation of modified SBBE in different contexts, outside North American sport, for establishing model validity. Also, the impact of brand-equity on favourable variables were not examined which is important for evaluating a scale's nomological validity (Biscaia et al. 2016; Biscaia et al. 2013). We attempt to not only revalidate and extend the model by Ross, Russell, and Bang (2008) as formative index,

rebranded as the sport-team brand equity index, but also evaluate the arguments made by them about outcomes of such a scale.

### **Index as a measurement tool**

The conventional perspective on measurement is based on the domain sampling model (Nunnally and Bernstein, 1994), according to which the latent variable determines its indicators. This approach dominates the social science and management literature (Coltman et.al., 2008; Diamantopoulos, 1999) and is known as reflective measurement model. This approach assumes that any change in the latent variable will be reflected in all the indicators (Bollen and Lennox, 1991) and that the causality flows from the latent construct to the indicator (Coltman et.al. 2008). This approach has been used by Ross, Russell and Bang (2008) to develop SBBE. In certain cases, the direction of causality flows in opposite direction, from the indicator to the construct (Edwards and Bagozzi, 2000) and that latent construct is determined as a combination of its indicators (Coltman et.al. 2008) and the indicators could be viewed as causing the construct rather than being caused (Bagozzi and Fornell, 1982; MacCallum and Browne, 1993). This approach is known as formative measurement model (Jarvis, MacKenzie and Podsakoff, 2003) where the measures are defining the conceptual meaning of the construct. This approach has been used in the area of sociology or psychology (MacCallum and Browne, 1993), marketing (Diamantopoulos, 1999; Diamantopoulos and Winklhofer, 2001; Diamantopoulos, 2005), organizational behaviour (Diamantopoulos and Sigauw, 2006), tourism (Kyle and Jun, 2015), retailing (Arnett, Laverie and Meiers, 2003), hospitals (Wang, Hsu, Hsu and Hsieh, 2001) and in sports (Sarstedt, Ringle, Raithel and Gudergan, 2014; Uhrich and Benkenstein, 2010). According to Bollen and Lennox (1991) a multi-item measure based on formative indicators is known as an index and Diamantopoulos and Winklhofer (2001) propose certain guidelines for formulation of

formative multi-item index. However, unlike formative LVs, scale development procedures for reflective indicators are well established among researchers and thus, attract maximum efforts (Diamantopoulos and Winklhofer, 2001; Churchill 1979). In the domain of sport marketing, Gladden, Milne and Sutton (1998) advise brand managers to incorporate various facets of a team as a component of brand equity to effectively enhance team image and their revenues. Subsequently, Gladden, Irwin and Sutton (2001) also put more focus on strengthening the team's brand by giving greater emphasis on branding as a set of strategic activities to achieve the long-term profits. Since our conceptualization of brand equity involves consumer's perception about a multitude of strategic choices and decisions taken by a team's management, which may not be necessarily interrelated with each other, but together determine a team's brand equity, as well as financial success, a formative item derived brand equity index makes a more logical case in the context of this study.

### **CONCEPTUALIZATION OF STBE INDEX**

Specifying the scope of the latent variable and identifying the domain of the concept which the index intends to capture, is the first step in the process of index formulation (Diamantopoulos and Winklhofer 2001). The items selected as indicators must capture the entire domain of the construct, as the exclusion of any one can lead to poor specification of the latent variable (Bollen and Lennox 1991). In case of reflective specification, it is not as important as the omission of any indicator does not change the definition of the latent variable. To ensure this, we used the spectator-based brand equity (SBBE) framework of Ross, Russell, and Bang (2008), as a starting point, with contextual modification in the context of Indian Premier League. Building on the works of Arnett, Laverie, and Meiers (2003) and Wang, Hsu, Hsu and Hsieh (2011), we conceptualize team brand equity to consist of four dimensions i.e. team brand awareness, team performance, brand association and team loyalty. Brand awareness is the familiarity of a specific team amongst viewers and is a

manifestation of how well consumers can recall elements related to the team like logo, symbol, slogan, colour of jersey, etc. (Gladden, Milne, and Sutton 1998; Ross 2006). Brand awareness is the lowest level of brand equity and provides rationale for existence of sports team besides representing chances that a consumer may move up higher in the chain to become a brand loyal fan (Funk and James 2002). Another dimension, similar to perceived service quality, is team performance which measures past performances of a team accumulated to generate its current equity. We conceptualize team performance to include two aspects - team success and team rivalry. While team success refers to an aggregate of not only a team long-run success in a specific competition but also the subjective opinion about the quality of players that the team has as well as the overall quality of the team itself (Ross, James, and Vargas 2006), team rivalry is conceived as the intensity of competition that exists between the contextual team and known historical rivals (Ross, Russell, and Bang 2008). Team rivalries represent a very important facet of team performance, so much so that sometimes team rivalries define a competition itself (for example the Spanish La Liga being known for Real Madrid and Barcelona rivalry) in turn producing moments that are forever etched in the mind of team fans. The conceptualization of team rivalry stays for not only team sports but also individual sports, with the difference that the individual competitor also represents a team with individual-to-individual fierce rivalry encouraging players to perform better when faced with a traditional rival (Amegashie and Kutosoati 2005; Triplett 1898, Tauer and Harackiewicz 2004).

Brand associations influence consumer behaviour, brand differentiation, forming positive attitude/feelings towards a brand and give consumers a strong reason to purchase that brand (Aaker 1991; Aaker 1996). Aaker (1991) defined brand associations as those thoughts that come to consumers' mind when a brand is encountered and reflect what she thinks of a brand. Ross (2006) argued that brand associations can help sport teams in the same way they

help brands. In this study we consider two types of brand association i.e. team related associations and non-team related associations. We include team history as team related association and non-player personnel and socialization as non-team related associations. Team history represents the storyline of a team, representing its successes and failures, accumulated over a long period of time encompassing long term fan loyalty and unique team imagery with a string effect on overall perceived team value and consumer based brand-equity (Villarejo-Ramos and Martin-Velicia 2007). Non-player personnel like coaches, owners, and team management had to spot and develop potential talents by applying new and innovative training methods, selecting and motivating players for the team, developing strategies and game layouts during the matches which impacts team performance, success and contributes to team brand-equity.

The relationship that a viewer shares with a team can be well explained by the social interaction theory, which defines associations people share with others, and in this context, fans of a team (Ross, James, and Vargas 2006). In a networked society, the decision to follow or not follow a team is not always an individual decision but is contingent by social approval, representing consent of immediate society of an individual (Wakefield and Sloan 1995). This implies that in case surrounding members of society depict high fan following for a team, it's quite likely an individual immersed in the society will also exhibit brand loyalty to the team, a concept well discussed in sports literature as peer group acceptance (PGA) (Gladden and Funk 2002). Our conceptualization of team brand loyalty is manifested through team identification and team internalization, as mentioned earlier. While team identification, representing emotional connect of a fan with a team expressed through personal commitment and strong feelings for a team (Sutton et al. (1997), team internalization represents an individual's self-reasoning so as to fulfil his dispositional needs which reflects their psychological needs, fans characteristics, and most importantly their personality traits (Funk

and James 2004, p.3). Thus, our conceptualization on STBE starts with three key first order dimensions, borrowed from previous literature, team brand awareness (unidimensional), team performance (composed of team success and team rivalry), brand association (composed of team history and non-player personnel and socialization) and team loyalty (composed of team identification and team internalization).

## **METHODOLOGY**

For developing the STBE index, the process prescribed by Diamantopoulos and Winklhofer (2001) was used. For developing the STBE index, Indian Premier League (IPL) for cricket was chosen as context. This is because IPL has become a very popular T20 global cricket tournament. IPL emerged as one of the first sporting event in India to attract the attention of the masses, corporate houses, celebrities and many sponsor brands (Gupta, Naik, and Arora 2013). In 2013, Forbes magazine named IPL as the best cricket league of the decade. IPL has franchisees originating from the different states of India and international celebrity players combined with Indian players play for nine different branded teams. Data was collected from fans of all the teams in IPL, with each respondent answering for the team he liked the most in IPL. Simple random sampling was used for collecting data from 383 students from a prominent university, where random numbers were used to select students from a comprehensive admission list of the university and consent sought for participation. Dickson et al. (2004) affirmed that youth represents the major target customers for sport organizations and for sport-related enterprises. Hence, young people, aware of IPL, and aged between 25 and 30 years, were selected as respondents for data collection, since they spend more time watching IPL matches at stadiums or on television and represent the most important segment for sport team(s). The sampling process ensured that there was fair representation of followers of all the eight teams in the 2015 edition of IPL. After data screening and omitting

outliers, 360 responses were retained for data analysis with an overall response rate of 93.99% (males = 64%, females = 35%). Recent TAM Media research suggests that for 2015 edition of IPL, the women viewership was 36%, making our sample gender-breakup fairly close to that of the population. Of the 360 responses, 72 responses were for Mumbai Indians, 69 for Chennai Super Kings, 53 for Royal Challengers Bangalore, 51 for Delhi Daredevils, 44 for Kings XI Punjab, 35 for Rajasthan Royals, 25 for Sunrisers Hyderabad and 11 for Kolkata Knight Riders. The collected data was divided into two equal parts with each sample not only having 180 respondents but also equal representation from each team. The first split was used for development of team brand equity index, whereas the second part was used for external validity check.

## **RESULTS**

### **Step 1: Indicator collinearity**

Exploring multi-collinearity between the independent variables is the first step in index construction procedure. It is done to check whether a high correlation exists among the independent variables or not (Malhotra and Dash 2011). Peter, Straub, and Rai (2007) argued that formative measurement models are based on multiple regressions in which multi-collinearity between independent variables is a serious issue for researchers which needs to be checked initially for index construction. Measurement of Variance Inflation Factor (VIF) can help researchers to check the multi-collinearity between independent variables and researchers can drop indicators having a VIF value greater than 3.3 (Diamantopoulos and Sigauw 2006). For calculating the multi-collinearity between variables in the STBE index, SPSS was used and all the indicators having VIF value greater than 3.3 were dropped as depicted in Table 1. A number of variables were dropped, which happened as these items are highly inter-correlated owing to be originally part of a reflective model.

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**Insert Table 1 Here**

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### **Step 2: Item Reliability**

In the second step, items remaining for the previous step were taken forward. We used partial least squares (PLS) to assess item reliability for index construction. Diamantopoulos and Winklhofer (2001) suggested that if any of the item weightings for formative measures are non-significant, removing such non-significant indicators one at a time would be appropriate, until all paths are significant and a good fit is obtained. As a result, formative indicators having non-significant weights were dropped from the index (Diamantopoulos and Winklhofer 2001). Also dropped were indicators having high standard error as compared to their weights and the indicator-dropping process was done in an iterative way by deleting one item at a time and having the lowest t-value (Wang et al. 2011). This process resulted in dropping of following indicators as they did not fall into the required criteria – Bmark1 (*t value = 0.12, standard error = 0.39, weight = 0.02*); TRivalry3 (*t value = 0.09, standard error = 0.27, weight = - 0.12*); THistory2 (*t value = 0.48, standard error = 0.072, weight = 0.035*).

### **Step 3: External Validity**

A formative measurement model taken in isolation is under-identified and according to Diamantopoulos, Riefler and Roth (2008), identification can be achieved by including specific outcomes of the formative constructs that are measured using reflective indicators. Such model, having both formative indicators and reflective indicators, is known as multiple indicators and multiple causes (MIMIC) model, first proposed by Hauser and Goldberger (1971). MIMIC model has been recommended to assess external validity (Coltman et.al, 2008; Diamantopoulos and Winklhofer, 2001; Jarvis, MacKenzie and Podsakoff, 2003) for

measurement models with formative indicators and recently Diamantopoulos and Temme (2013) observed that MIMIC model produced best fit in absolute terms and in comparison to other models. As per the requirement of MIMIC model, brand equity of sport team was measured using both formative and reflective indicators. Yoo and Donthu's (2001) three item scale was customized as reflective indicators for team brand equity. The items included (1) *It makes sense to be with [name of the team] even if other teams are performing at the same level (STBER1)* (2) *Even if other teams perform well, I will prefer to support [name of the team] (STBER2)* (3) *If another team is not different from [name of the team] in any way, it seems smarter to support [name of the team] (STBER3)*. Figure 1 shows the MIMIC model which was used for examining external validity of the index while Table 2 summarizes the empirical results of this test.

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**Insert Figure 1 Here**

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**Insert Table 2 Here**

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Result shows that team brand equity index explains 79% of the variance in the reflectively measured team brand equity ( $R^2 = 0.79$ ,  $Q^2 = 0.78$ ). This eight indicator model was compared with full indicator model and findings indicate that there is very less deterioration in fit indicating that the eight indicator model can be used as it sufficiently captures the content of brand equity index. The path coefficient from the sport team brand equity index to the reflectively measured sport team brand equity is positive ( $\beta = 0.81$ ,  $p < 0.01$ ).

Further, nomological validity was also assessed by examining how the team brand equity index is related to another construct merchandise shopping intention. A strong fan-team relation operationalised by brand equity, has also a strong concomitant effect of the fan's willingness to engage with the team off-the-field, which also includes team peripherals like merchandise (Villarejo-Ramos and Martin-Velicia, 2007). Villarejo-Ramos and Martin-Velicia (2007) defined merchandise as sportswear, souvenirs, preparation, and all class of articles that shows clearly to the name and logo of the sport organization. Merchandise is important as it reflect the image of the sport team (Brooks, 1994) and according to Gladden, Milne, and Sutton (1998), high brand equity of a team should result in increased sale of team based merchandise. Three items were used to measure merchandise shopping intention (1) *I am very likely to purchase the merchandise of [name of the team]* (SIR1) (2) *I am willing to spend money to collect the souvenirs of [name of the team]* (SIR2) (3) *I am willing to recommend the merchandise of [name of the team] to my friends* (SIR3). These items were already a part of the questionnaire.

Table 3 reflected the model where the sport team brand equity index acts as an antecedent of merchandise shopping intention. Additional support to external validity is justified by the results of the measurement. It was found that the path coefficient from the sport team brand equity index to merchandise shopping intention is 0.72 (p-value < 0.001) and its R<sup>2</sup> value is 0.63.

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**Insert Table 3 Here**

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***Step 4: Indicator inspection***

The last step for index construction (Diamantopoulos and Winklhofer 2001) is to ensure that the brand-equity construct is captured fully by the remaining indicators. This is done with the object of exploring the conceptual consideration of the construct. In the index construction procedure, the deletion of indicators carries the potential of changing the meaning and nature of the construct. Diamantopoulos and Winklhofer (2001) advise researchers to take into consideration the conceptual consideration of the construct rather than relying only on statistical results for deleting the items. Three experts holding positions of brand managers in three separate teams in IPL were sent these items and were asked to rate each item of a five-point scale to measure suitability of the item to measure brand equity. The mean rating for each items across raters was more than 4.5 with inter-rater correlation for each item exceeding 0.85. Thus, this exercise established that the seven indicators of the sport team brand equity index cover all the dimensions of the brand equity index, as conceptualized by the authors. Thus, sport team brand equity index can be used for measuring the brand equity of sport teams using formative indicators in a parsimonious and reliable way.

## **DISCUSSION AND CONTRIBUTIONS**

Prior scales to measure sports team related brand equity have been fairly complex, running into multiple constructs and sub-constructs, rendering them impractical for usage or interpretation for practitioner. Additionally, with all scales proposed with reflective items, there is a clear lack in differentiation in items measuring each construct, a general critique of reflective scales from practitioner's perspective. Consequently, this work aimed at creating a simplified STBE index based on a well-researched and refereed Ross, Russell and Bang's (2008) SBBE model, which was conceptualized as a complicated multi-dimensional construct measure with reflective indicators. Our objective was to propose not only a simpler user-friendly index but also ensure adequate concept coverage without loss of meaning of the construct, and to our knowledge, represents one of the first efforts do so in this context. By

following a rigorous process, this work ensures that no loss of meaning happens as well as demonstrates that prior scales could have captured meaning of the construct more economically, rather went ahead and proposed complicated scales with items not too different from each other in meaning, again a general issue with reflective scales. This empirical research also adopts brand associations and brand awareness as the important constructs for assessing the spectator based brand equity, as suggested by Ross (2006) and Ross, Russell and Bang (2008), however, the predictive logic provided by them about effects of specific constructs on brand equity based on a reflective model with similar worded items, represents a major problem. To overcome this drawback, we test the items of the STBE model formulating it as a formative index, which by the very fact that it's composed of unrelated elements, a much stronger base for explaining cause-effect relationship from these constructs to brand equity is provided. By overcoming two weaknesses of a prominent reflective scale, the work represents a way forward and promotes other authors to delve more in index development for erstwhile definition of constructs explained through reflective scales.

Through a rigorous analysis, we find that STBE can be represented by eight items, spread across different dimensions of brand equity. But since STBE in this paper is a composite variable, we can also evaluate the relative importance of each cause on the STBE index. We found that in both the external validity check with the MIMIC model as well as the nomological validity check, items BMark 2 (*The symbol of Team X is unique and I can recognize it among competing brands*), TRivalry2 (*Team X does well against their rivals*) and NPP2 (*Team X is having the best coach for the team*) came out to be ones with highest path weights on the construct. This also implies that fans get strongly associated with a team with unique brand names and logos as well as ones with strong personalities leading the team (mostly coaches). Additionally, people become fans of teams that perform well against their competitors and win, reemphasizing the point that bigger teams with bigger budgets tend to

win a lot and hence, attract maximum fans. Socialization<sup>2</sup> (*I am able to see friends because of Team X matches*) came out the relatively weak contributor to STBE, implying that being a fan of a team is a completely personal choice and not to comply with immediate social groups like family or friends. However, path weights of all eight items causing STBE are significant and not different indicating their importance in the process.

Sport teams acts as a bridge between spectators and the sport. Growth of sporting events as a form of entertainment has led to an increase in competition among sport organizations for the consumer entertainment dollar. James, Kolbe, and Trail (2002) advised teams to attract, develop, and maintain relationships with a substantial number of sport consumers in order to create adequate income streams. Team management can't think of managing sport teams as non-profit entities but as professional brands to build teams' high brand-equity. Managing such complexities and competition in modern sport require the presence of effective sport marketing strategies. Branding of sport teams is important considering the fact that brand-equity rankings of sport clubs are published in leading business magazines such as Forbes and Fortune. Highlighting the importance of team branding, current work focuses on developing a parsimonious sport team brand equity index following the procedure developed by Diamantopoulos and Winklhofer (2001). The eight item index captures the full domain of team brand equity in a parsimonious way which other reflective scales lack. The findings of the study will be beneficial to both sport managers as well as to the marketing managers who want to associate their brands with sport teams. The study develops a theoretically and statistically sound sport team brand equity index that could be used for measuring the brand equity of sport teams. This index has certain other uses also. The STBE index can be used as a benchmarking tool by the managers of sport teams to calculate the brand equity of their teams in a comprehensive and reliable way (Arnett, Laverie, and Meiers 2003). The index can also be used for evaluating the effectiveness of the

marketing strategies of the teams. Positive value of brand equity would mean that the strategy used by sport teams' managers is effective in achieving the objective and can be continued. On the contrary, low value of brand equity would suggest a deeper introspection into the strategies employed by the team administration for the branding of sport team.

Sport team brand equity index could also help team managers in exploring the relative importance of the different components of their-team's brand equity in an effort to enhance the team's brand equity. The STBE index can also be used by team managers to investigate this relationship between outcomes and antecedents of sport teams' brand equity. Overall, the STBE index can provide a snapshot detail regarding the ability of the team's administration to create strong emotional bonds with the fans. Construction of sport teams' brand equity index will help sport marketers to better understand their teams and thereby enhance their teams' brand equity.

### **LIMITATIONS AND DIRECTIONS FOR FUTURE RESEARCH**

This work has its own set of limitations. First, for the current study, data was collected from respondents belonging to only one segment of the sport consumer base i.e. youths. IPL is positioned as a youthful T-20 cricket tournament. It makes sense to select youth as a segment for the experiments believing in the fact that youth represent the major target customer for sport organizations and for sport related consumption and represent the most important segment for the firms (Dickson, Derevensky, and Gupta 2004). Importantly, sports are not restricted to any age limit and fans of a sport team differ in terms of their age ranging from youth on one extreme and old-aged fan on the other end of the continuum. Also, the current sample was found to be male dominated that could result into biased results from the perspective of a specific gender. It was assumed that cricket as a sports is more popular among males than females and such an unequal distribution won't be having much greater

impact (The National Sport, (2016). Despite all assumptions, researchers can explore age and gender differences across the STBE dimensions and future researches should replicate with another more diverse sample to show the generalizability of results outside of male and youth dominated sample. Second limitation of the study was that the data was collected from respondents belonging to a particular state and, interestingly, no team from that state was playing in IPL. This was done to remove the respondents' bias. Despite of all strong arguments, this can seriously impact team identification and loyalty dimensions of STBE index. Future researchers are also encouraged to replicate STBE index for sport teams in non-cricketing events. In addition, the unequal distribution of sample across the eight teams playing in Indian Premier League can also impact the results. Future researches can be done focusing on equal distribution of sample across all the teams playing in the event (if they exist). A third drawback is that this STBE index can be used for measuring the brand-equity of sport team from the perspective of television / online viewers only since data was collected from respondents who watch sport on television or any via online sources except watching them live in stadiums. Future researches could use STBE framework to measure the brand-equity of sport teams by collecting data from respondents in stadiums to check the differences, if any. This could help to understand if there is any difference between people watching sport live in stadiums and at home. Finally, the scale developed can be easily used for individual sports as well, though however the relative importance of the items for developing brand equity for the sportsman might be different and needs further investigation.

## **CONCLUSION**

Spectators and their relation with sport teams has been subjected to little research. This work aims at putting some light on this concept where we tried to re-specify the spectator based brand equity model to a sport team brand equity index. The study, though rigorous empirical analysis, reduced the multidimensional spectator based brand equity framework to an eight

item parsimonious index, which can also be interpreted as casual variables that have a significant effect on overall team brand equity. Each item of the index in itself is an outcome variable that can be achieved by focused on-ground performances and off-ground marketing initiatives. While this work does not delve into each of those, what it does offer is a set of limited outcomes that need to be achieved by the team for its spectators to have an enhanced sport team brand equity.

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**Insert Table 4 Here**

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## TABLES AND FIGURES

**Table 1 : Indicator Collinearity**

CONSTRUCT	ITEM	ITEM DETAIL	VIF
<b>Brand Awareness</b>	BMark1	I am aware of [name of the team] logo	1.76
	BMark2	The symbol of [name of the team] is unique and I can recognize it among competing brands	2.28
	BMark3*	Logo of [name of the team] is different from other teams' logo	3.71
<b>Team Success</b>	TSuccess1*	The performance of [name of the team] is first class	5.39
	TSuccess2	[name of the team] is very successful in IPL	1.87
	TSuccess3*	[name of the team] has high quality celebrity players	4.59
<b>Team Rivalry</b>	TRivalry1*	There exists a weak unity between the players of the team	3.79
	TRivalry2	[name of the team] does well against their rivals	2.84
	TRivalry3	[name of the team] often beats the biggest opponents	1.84
<b>Team History</b>	THistory1	[name of the team] has a history of winning	2.94
	THistory2	[name of the team] has been successful in the past	2.12
	THistory3*	[name of the team] reflects the culture/history of [name of the team].	3.78
<b>Non-player Personnel</b>	NPP1*	Cheerleaders of [name of the team] are the most attractive	3.87
	NPP2	[name of the team] is having the best coach for the team	2.58
	NPP3*	Team management is doing a good job for [name of the team].	4.93
<b>Socialization</b>	Socialization1*	[name of the team] gives me a reason to spend time with friends	4.98
	Socialization2	I am able to see friends because of [name of the team] matches	1.64
	Socialization3*	The team gives me an opportunity to meet new people	3.85
<b>Team Identity</b>	TIden1*	[name of the team] is my team	4.56
	TIden2	I consider myself a loyal fan of [name of the team]	2.23
	TIden3*	Supporting [name of the team] is not important to me	3.67
	TIden4*	I want to know others that I am a fan of [name of the team]	3.34
<b>Team</b>	TInternal1	I feel like I am a member of [name of the team]	2.54

<b>Internalization</b>	TInternal2*	Being a fan of [name of the team] is a large part of who I am	3.09
	TInternal3*	I can do anything for [name of the team]	4.98

*\* Indicators that were dropped on the basis of VIF value*

**Table 2 : PLS Analysis Results – MIMIC Model**

Measurement Path	Loading (p-value)	Path Weight (p value)	Tolerance
<b>Team Brand Equity Index (Formative)</b>			
BMark2--→ Team Equity (Index)	0.82 (0.00)	0.19 (0.00)	0.27
TSucess2--→ Team Equity (Index)	0.69 (0.00)	0.09 (0.04)	0.12
TRivalry2--→ Team Equity (Index)	0.72 (0.00)	0.14 (0.01)	0.28
THistory1--→ Team Equity (Index)	0.59 (0.03)	0.07 (0.05)	0.32
NPP2--→ Team Equity (Index)	0.77 (0.00)	0.16 (0.02)	0.08
Socialization2--→ Team Equity (Index)	0.52 (0.01)	0.09 (0.04)	0.11
TIden2--→ Team Equity (Index)	0.42 (0.05)	0.11 (0.04)	0.19
TInternal2--→ Team Equity (Index)	0.65 (0.00)	0.15 (0.01)	0.24

Measurement Path	Loading (Standard Error)	AVE	Internal Reliability
<b>Team Brand Equity Index (Reflective)</b>		0.76	0.88
Brand Equity -> STBER1	0.93 (0.01)		
Brand Equity -> STBER2	0.91 (0.03)		
Brand Equity -> STBER3	0.88 (0.03)		
<b>Structural Path</b>		<b>R<sup>2</sup></b>	<b>Q<sup>2</sup></b>
Brand Equity (Index) -> Team Equity (Reflective)	0.81 (0.03)	0.79	0.78

**Table 3 : PLS Analysis for External Validity Check**

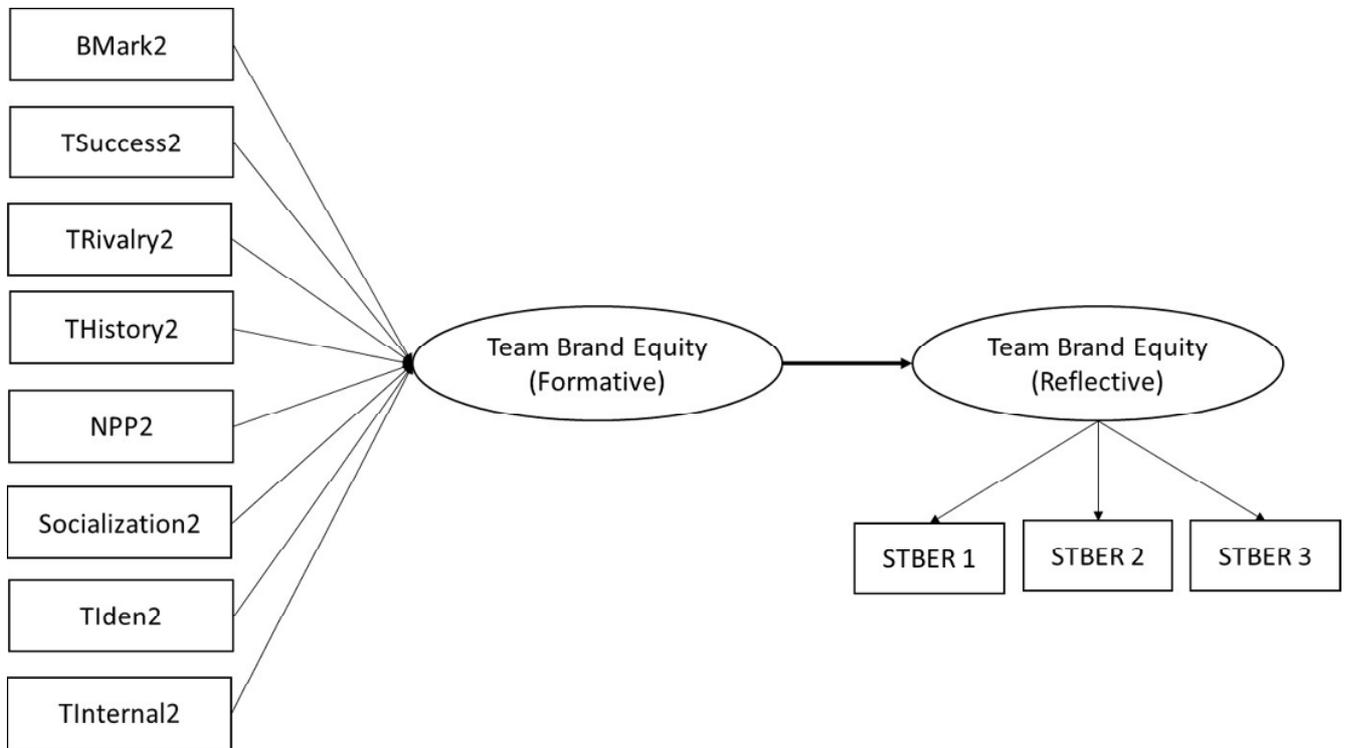
<b>Measurement Path</b>	<b>Loading (p-value)</b>	<b>Path Weight (p-value)</b>
BMark2--→ Team Equity (Index)	0.62 (0.00)	0.21 (0.00)
TSucess2--→ Team Equity (Index)	0.75 (0.00)	0.11 (0.03)
TRivalry2--→ Team Equity (Index)	0.47 (0.03)	0.13 (0.03)
THistory1--→ Team Equity (Index)	0.48 (0.03)	0.07 (0.05)
NPP2--→ Team Equity (Index)	0.64 (0.00)	0.14 (0.03)
Socialization2--→ Team Equity (Index)	0.45 (0.03)	0.11 (0.02)
TIden2--→ Team Equity (Index)	0.62 (0.00)	0.11 (0.02)
TInternal2--→ Team Equity (Index)	0.55 (0.01)	0.14 (0.02)

<b>Measurement Path</b>	<b>Loading (Standard Error)</b>	<b>AVE</b>	<b>Internal Reliability</b>
<b>Merchandise Shopping</b>		0.79	0.82
<b>Intention (Reflective)</b>			
Shopping Intention -> SIR1	0.83 (0.03)		
Shopping Intention -> SIR2	0.86 (0.02)		
Shopping Intention -> SIR3	0.77 (0.04)		
<b>Structural Path</b>		<b>R<sup>2</sup></b>	<b>Q<sup>2</sup></b>
Brand Equity (Index) -> Shopping Intention (Reflective)	0.72 (0.03)	0.63	0.64

**TABLE 4: Final list of items**

<b>SPORT TEAM BRAND EQUITY INDEX ITEMS</b>
The symbol of Team X is unique and I can recognize it among competing brands
Team X is very successful in Event Y
Team X does well against their rivals
Team X has a history of winning
Team X is having the best coach for the team
I am able to see friends because of Team X matches
I consider myself a loyal fan of Team X
Being a fan of Team X is a large part of who I am

**Figure 1: MIMIC Model**



### **Author biographies**

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