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INVESTIGATING THE FACTORS AFFECTING THE FINANCIAL VIABILITY OF PROFESSIONAL SPORTS LEAGUES - A STUDY OF IRANIAN HANDBALL PREMIER LEAGUE

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Abstract

This study examines the effective factors on the financial viability in Iranian Handball Premier League. Given the lack of a comprehensive study that considers multiple aspects of the financial viability in Iranian Handball Premier League, application of a modeling approach showed the best efficiency. Upon a review of existing authoritative scientific documents, a model of the financial viability was development. To assess the validity of the conceptual model of research, a questionnaire was designed and distributed among league stakeholders. The findings showed that the conceptual model of research is well-matched with the data obtained from the field of research, so the validity of the model was confirmed. Sponsorship, income from television and other media revenues, sale of league-related merchandise and apparel, and fans and spectators attendance had a positive and significant effect on the financial viability in Iranian Handball Premier League. The Model of the

financial viability in Iranian Handball Premier League is not by any means a final or definitive depiction. We do not think any model in this field could ultimately be final.

INTRODUCTION

Adequate financial income can help league teams to provide a good performance and beautiful and modern games away from environmental tensions. Under these circumstances, there can be expect clubs to be able to cope with their heavy costs or overcome the upcoming financial and economic crises (Norouzi et al., 2018). To maintain financial viability, professional sports leagues rely on generate income from television and other media revenues (Bellamy Jr, 1988; Chandler, 1991; Horowitz, 1978; Rowe, 1995), sale of league-related merchandise and apparel (Mason, 1999; Burton, 1996), corporate sponsorships (Grimm, 1993; Cousens & Slack, 1996), lucrative stadium arrangements with host communities (Mason, 1999), and fans and spectators attendance (Mason, 1999; McDonald et al., 2013; Bennett et al., 2009).

In Iran with the dominance of three professional leagues (Persian Gulf Pro League, Iranian Volleyball Super League, and Iranian Premier Wrestling League); other leagues such as Iranian Handball Premier League face major challenges in making income. Therefore, with the presence of other sports leagues, it is necessary for the Iranian Handball Premier League to gain a full understanding of the factors affecting the financial viability of the league, and according to researchers (Mastromartino et al., 2020) provide a unique framework. Despite this necessity, to our knowledge, no reliable research has been done to investigate the factors affecting the financial viability in the Iranian Handball Premier League.

In the next section of this article, the previous literature on the factors affecting the financial viability of the league is reviewed and through it, research hypotheses and finally the conceptual model of research are developed. The third section describes the research methodology and data collection. An analysis of results follows in the fourth section. The final section provides a discussion of the findings, and concludes with limitations and implications of this study.

LITERATURE REVIEW

The Stadiums and Facilities of the League

According to Zorn (1994), there are several factors that potentially distinguish professional sports from other businesses, including stadium lease arrangements. To understand why and how the professional sports infrastructure help to financial viability of the league, it is necessary to understand the importance of stadiums and arenas which has been considered in international literature. Clubs are now given to viewing stadia as fundamental to generating revenue and developing the club brand. New stadiums are now seen to offer a springboard for clubs to create partnerships with other ‘market-players’ across various industries, such as finance, leisure, entertainment and tourism. In 2007, total stadium investment by British clubs reached €3 bn by the end of the 1992-93 season and €2.2 bn by the end of the 2005-06 seasons. In 2007, estimated that total stadia investment by English

clubs since 1992-93 is now well into its third billion, with £2.2 billion spent up to the end of the 2005-06 season (Kennedy, 2012). Therefore:

Hypothesis 1. The stadiums and facilities of the league (SFL) positively affects the financial viability of the league (FVL).
Hypothesis 1a. Stadiums and facilities of the league (SFL) positively affects the fans and spectators attendance (FSA).

Sponsorship

Today's, sponsorship has become a crucial revenue source for sports clubs and this trend is gradually expanding (Apostolopoulou & Papadimitriou, 2004); so that sport stadiums, clubs, and events are named after corporations and linked to corporate logos (Hematinazhad et al., 2016). Studies conducted in this field of study have found the sponsorship antecedents including sponsorship clutter (Breuer & Rumpf, 2012; Wakefield et al., 2007; Cornwell et al., 2000), sponsorship duration (Pitts & Slattery, 2004; Wakefield et al., 2007; Pope et al., 2009; McAlister et al., 2012; Walraven et al., 2014; Mazodier & Quester, 2014), and popularity of sport (Wakefield et al., 2007; Ko et al., 2008; Olson, 2010; Walraven et al., 2016). Furthermore, Wishart et al. (2012) found that media coverage and attendance level of sport events are important determinants of sponsorship right fees. Therefore:

Hypothesis 2. Sponsorship (Spon) positively affects the financial viability of the league (FVL).
Hypothesis 2a. Fans and spectators attendance (FSA) positively affects Sponsorship (Spon).
Hypothesis 2b. Income from television and other media revenues (ITOMR) positively affects Sponsorship (Spon).

Income from Television and other Media Revenues

Among high-income nations, television broadcasting is an important source of revenues in all of the most important professional sports. Despite lucrative revenue flows, professional sports leagues view television with some skepticism, worrying that broadcasts reduce attendance in the short run and overall fan interest, through overexposure, in the long run (Noll, 2007). Previous studies have found the television broadcasting antecedents including the demand for sports rights (Tonazzi, 2003; Van der Wurff, 2005), the supply of sports rights (Noll, 2007), and the policy (Noll, 2007). Therefore:

Hypothesis 3. Income from television and other media revenues (ITOMR) positively affects the financial viability of the league (FVL).
Hypothesis 3a. Income from television and other media revenues (ITOMR) negatively affects Fans and spectators attendance (FSA).

Sale of League-related Merchandise and Apparel

As noted, most leagues and clubs share revenues generated through broadcasting deals, corporate sponsorships, merchandise sales and game attendance (Kunkel et al., 2014). Recent research indicates that leagues and clubs are closely linked in the mind of consumers and therefore have mutual interests in attracting consumers (Kunkel et al., 2013). Consequently, league

brand development strategies aimed at increasing consumers' involvement with the league are beneficial to both the league and its affiliated clubs. The Psychological Continuum Model (PCM) provided the theoretical foundation used to understand how consumers connect with a sport brand (Funk & James, 2001; 2006). Within the PCM, external factors, such as socializing agents, and internal factors, such as consumers' psychological needs, interact with each other and influence evaluative processes. Evaluative processes are largely determined by consumers' prior knowledge and involvement. These processes include motivation, perception, learning and memory, which create psychological and behavioral outcomes, such as involvement, game attendance, and merchandise sales (Funk & James, 2001). Previous research have also examined the potential strategies that can be used to manage and develop brand associations (Kunkel et al., 2014). These strategies are market penetration, market development, product development and diversification (Kunkel et al., 2014; Ansoff, 1957). Therefore:

Hypothesis 4. Sale of league-related merchandise and apparel (SLRMA) positively affects the financial viability of the league (FVL).

Fans and Spectators Attendance

Research has indicated that highly involved consumers of sport tend to consume the sport through event attendance (more than those who are not as involved), sponsors must rely on the expectation that those who are "into" a sport will eventually watch and attend its events. Therefore, for events and sponsors alike, there is a need to understand the mechanism that potentially leads to event spectatorship (Bennett et al., 2009).

Previous studies have identified factors affect the presence of fans and spectators including engage (Cialdini et al., 1976; Cialdini & Richardson, 1980; Holt, 1995; Fisher & Wakefield, 1998; Dietz-Uhler & Murrell, 1999; De Ruyter & Wetzels, 2000; James et al., 2001; Westerbeek & Shilbury, 2003; Swanson et al., 2003; Jowdy & McDonald, 2003), motivation (Wann, 1995; Trail & James, 2001; Funk et al., 2001; Kim et al., 2008), satisfaction (Wakefield & Blodgett, 1994; Anderson & Mittal, 2000; Chang, 2000; Theodorakis et al., 2001; Matsuoka et al., 2003; Anderson et al., 2004; Trail et al., 2005; Shonk & Chelladurai, 2008; Sarstedt et al., 2014), League scheduling (Bartsch et al., 2006), Investment and economic systems (Rostamzadeh et al., 2015; Kiuri & Teller, 2015), and Socio-cultural factors (Brandes & Franck, 2007; Sharifian et al., 2014; Storm et al., 2017).

Previous studies have also found the satisfaction antecedents including the service quality, club identification, and Win/lose phenomenon (Mullin, 1985; Wann & Branscombe, 1993; Lentell, 2000; Theodorakis et al., 2001; Van Leeuwen et al., 2002). Socio-cultural factors include Rivalry (Brandes & Franck, 2007; Kilduff et al., 2010; Benkwitz & Molnar, 2012; Havard, 2014; Tyler & Cobbs, 2015), media (Moradi et al., 2011; Sharifian et al., 2014), and Society-club interaction (Storm et al., 2017). Although no established scale is available for measuring the engagement of the fans and spectators in sport, four main behaviors have been identified in existing research: (a) Nontransactional in-role behaviors, (b) Nontransactional extra-role behaviors,

(c) Transactional in-role behaviors, and (d) Transactional extra-role behaviors (Yoshida et al., 2014). Therefore:

Hypothesis 5. Fans and spectators attendance (FSA) positively affects the financial viability of the league (FVL).
Hypothesis 5a. Engage (Eng) positively affects the fans and spectators attendance (FSA).
Hypothesis $5a_1$. Nontransactional in-role behaviors (NIRB) positively affects the Engage (Eng).
Hypothesis $5a_2$. Nontransactional extra-role behaviors (NERB) positively affects the Engage (Eng).
Hypothesis $5a_3$. Transactional in-role behaviors (TIRB) positively affects the Engage (Eng).
Hypothesis $5a_4$. Transactional extra-role behaviors (TERB) positively affects the Engage (Eng).
Hypothesis 5b. Motivation (Motiv) positively affects the fans and spectators attendance (FSA).
Hypothesis 5c. Satisfaction (Satis) positively affects the fans and spectators attendance (FSA).
Hypothesis $5c_1$. Service quality (SQ) positively affects the Satisfaction (Satis).
Hypothesis $5c_2$. Club identification (CI) positively affects the Satisfaction (Satis).
Hypothesis $5c_3$. Win/Lose phenomenon (WLP) positively affects the Satisfaction (Satis).
Hypothesis $5c_4$. Win/Lose phenomenon (WLP) positively affects the Club identification (CI).
Hypothesis 5d. League scheduling (LS) positively affects the fans and spectators attendance (FSA).
Hypothesis $5d_1$. League scheduling (LS) positively affects the income from television and other media revenues (ITOMR).
Hypothesis 5e. Investment and economic systems (IES) positively affects the fans and spectators attendance (FSA).
Hypothesis 5f. Socio-cultural factors (SCF) positively affects the fans and spectators attendance (FSA).
Hypothesis $5f_1$. Rivalry (Riv) positively affects the Socio-cultural factors (SCF).
Hypothesis $5f_2$. Society-club interaction (SCI) positively affects the Socio-cultural factors (SCF).
Hypothesis $5f_3$. Media (Med) positively affects the Socio-cultural factors (SCF).

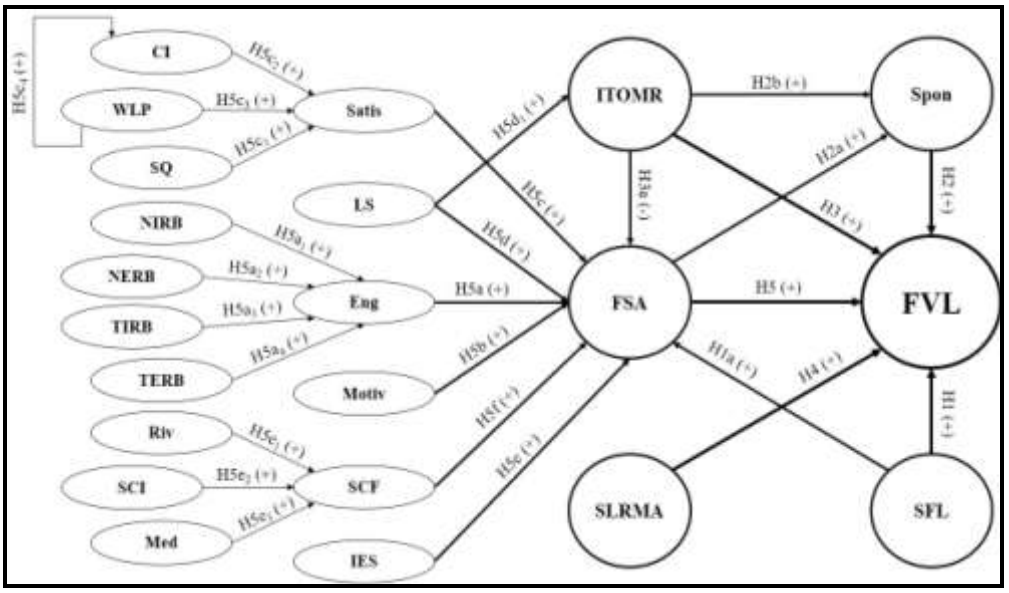

Fig. 1 A model of the financial viability in the Iranian Handball Premier League

METHODOLOGY

To test the theoretical framework, we examined the perceptions of stakeholders of the Iranian Handball Premier League. The researchers of this study believe that the stakeholder group generate revenue for the Iranian Handball Premier League and provides them with sufficient information about the Iranian Handball Premier League. The stakeholders of the Iranian Handball Premier League include players, Teachers, Club managers, Federation members, referees, Veterans, Fans and spectators, Media owners, Sponsors, and Sports policymakers who participated in the study voluntarily. The number of participants in this study was 306. The data collected in the present study indicated that the participants in this study had a minimum of 4 years and a maximum of 19 years of Iranian handball premier league-related activity. Appendix A provides further details of the characteristics of participants.

A questionnaire was used to collect data. The questionnaire of this research consisted of two general sections. The first section of the questionnaire was designed to collect data related to demographic variables of the research. The second section of the questionnaire was designed to collect data related to observed variables in the research conceptual model. In this section, participants were asked to comment their opinion on each question on a five-value scale. A total of 350 questionnaires were distributed among the statistical population. After removing incomplete and inappropriate answers, a total of 306 answers was used to check the validity of the structure and test the hypothesis.

RESULTS

To test the proposed research model, data analyses for both the measurement model and structural model were performed using Partial Least Squares (PLS). We used PLS-Graph 3.0.1016 with bootstrapping (Ravichandran & Rai, 2000; Wixom & Watson, 2001). PLS analyzes structural equation models, including

measurement and structural models with multi-item variables that contain direct, indirect, and interaction effects.

Choosing between a reflective and a formative indicator is sometimes difficult because the directionality of the relationship is not always straightforward. All the indicators in the model were treated as reflective indicators of their respective constructs, consequently, the direction of causality was from construct to indicator (i.e., reflective). As a second generation data analysis technique (Diamantopoulos et al., 2012), PLS provides a powerful method for assessing a structural model and measurement model because of the minimal demands on measurement scales, sample size, and residual distributions (Wynne, 1998). Handling both formative and reflective indicators, PLS can be used not only for theory confirmation, but also for suggesting where relationships might or might not exist and for suggesting propositions for later testing. The combined analysis of the measurement and the structural model enables measurement errors of the observed variables to be analyzed as an integral part of the model, and factor analysis to be combined in one operation with hypothesis testing (Gefen et al., 2000). To ensure the appropriateness of the research instrument, it was tested for content validity, reliability and construct validity.

Content Validity

To ensure content validity, a thorough review of the literature on the subject of the study was conducted. The questionnaire was also pilot tested by having a panel of experts (professors and sport management professionals) review it, after which necessary changes were made to improve both the content and clarity of the questionnaire. Then, a sample of respondents separate from those included in the pilot test was asked to check the questionnaire. These and all pilot test respondents were excluded from the main sample used for reliability testing, construct validation, and hypothesis testing.

Reliability

The assessment of the measurement model includes the estimation of internal consistency for reliability, and tests of convergent and discriminant validity for construct validity (Chin & Todd, 1995). Internal consistency was calculated using Cronbach's alpha and Fornell's composite reliability (Fornell & Larcker, 1981). Table 1 shows the descriptive statistics for the constructs, the reliability (Cronbach's alpha) of the scales, and the sources from which they were adapted.

The Cronbach reliability coefficients of all variables were higher than the minimum cutoff score of 0.60 (Nunnally, 1978), 0.65 (Lee & Kim, 1999), or 0.70 (Nunnally, 1978; Nunnally & Bernstein, 1994). In contrast to Cronbach's alpha, which implicitly assumes that each item carries the same weight, composite reliability relies on the actual loadings to construct the factor score and is thus a better measure of internal consistency (Fornell & Larcker, 1981). Composite reliability should be greater than the benchmark of 0.7 to be considered adequate (Fornell & Larcker, 1981). All composite reliabilities of constructs had a value higher than 0.7, indicating adequate internal consistency (Nunnally, 1978). Additionally, all Average Variance Extracted

(AVE) values of constructs were higher than 0.50, the suggested minimum (Fornell & Larcker, 1981). An AVE greater than 0.5 indicates that more than 50% of the variance of the measurement items can be accounted for by the constructs.

Table 1 Reliability Indices for Constructs

Construct	Types of indicators	Alpha	Composite reliability	AVE	Adapted from:
FVL	Reflective	0.84	0.89	0.69	Mason (1999) Apostolopoulou & Papudimitriou (2004) Noll (2007)
SFL	Reflective	0.50	0.80	0.66	Greenwell et al (2002)
Spon	Reflective	0.82	0.89	0.73	Walraven et al (2016) Wakefield et al (2007) Cornwell et al (2000) Breuer & Rumpf (2012)
ITOMR	Reflective	0.89	0.93	0.83	Tonazzi (2003) Van Der Wurff (2005) Noll (2007)
SLRMA	Reflective	0.89	0.92	0.75	Kunkel et al (2014) Ansoff (1957)
FSA	Reflective	0.89	0.93	0.76	Solberg & Hammervold (2008) Mcdonald et al (2013) Mason, (1999)
Eng	Reflective	0.77	0.84	0.50	Doyle et al (2013) Bennett et al (2009)
NIRB	Reflective	0.73	0.88	0.78	Yoshida et al (2014)
NERB	Reflective	0.80	0.88	0.71	Yoshida et al (2014)
TIRB	Reflective	0.71	0.82	0.54	Yoshida et al (2014)
TERB	Reflective	0.73	0.85	0.65	Yoshida et al (2014)
Motiv	Reflective	0.88	0.90	0.55	Wann (1995) Trail & James (2001) Funk et al (2001)
Satis	Reflective	0.87	0.92	0.79	Giese & Cote (2000)
SQ	Reflective	0.88	0.91	0.59	Sarstedt et al (2014)
CI	Reflective	0.81	0.88	0.64	Wann & Branscombe (1993)
WLP	Reflective	0.82	0.89	0.74	Van Leeuwen et al (2002)
LS	Reflective	0.89	0.93	0.83	Bartsch et al (2006)
IES	Reflective	0.79	0.87	0.62	Rostamzadeh et al (2015)
SCF	Reflective	0.84	0.90	0.76	Authors
Riv	Reflective	0.85	0.91	0.77	Kilduff et al (2010) Benkwitz & Molnar (2012) Tyler & Cobbs (2015)
SCI	Reflective	0.79	0.90	0.83	Storm et al (2017)
Med	Reflective	0.93	0.95	0.83	Moradi et al (2011)

Construct Validity

Construct validity was examined by assessing convergent validity and discriminant validity (Chin et al., 1997). Convergent validity is considered acceptable when all item loadings are greater than 0.50 (Wixom & Watson, 2001), and the items for each construct load onto only one factor with an eigenvalue greater than 1.0. As noted in Appendix B, the items for each construct did indeed load onto only one factor with an eigenvalue greater than 1.0. The cumulative percentages of variance explained by each factor were greater than 46% for all constructs.

The average variance extracted (AVE) can also be used to evaluate discriminant validity. The AVE from the construct should be higher than the variance shared between the construct and other variables in the model (Chin & Todd, 1995; Fornell & Larcker, 1981). Discriminant validity can be checked by examining whether the correlations between the variables are lower than the square root of the average variance extracted. Table 2 indicates that all the square roots of each AVE value are greater than the off-diagonal elements. This indicates discriminant validity among variables.

Structural Model Assessment

The assessment of the structural model includes estimating path coefficients and R^2. The path coefficients indicate model fit, i.e., how well the model is performing (Chin, 1998; Hulland, 1999). Fig 2 shows the results of assessment and hypothesis testing. As shown in the figure, sponsorship (Spon), income from television and other media revenues (ITOMR), sale of league-related merchandise and apparel (SLRMA), and fans and spectators attendance (FSA) have a significant and positive effect on financial viability of the league (FVL). These findings support H2, H3, H4, and H5 respectively. But, the hypothesized path from stadiums and facilities of the league (SFL) to financial viability of the league (FVL) was not significant. The hypothesized path from stadiums and facilities of the league (SFL) to fans and spectators attendance (FSA) was not also significant. Thus, H1, and H1a were not supported.

The path coefficients of FSA → Spon, and ITOMR → Spon, were significant at the 0.01 and 0.001 levels respectively. Thus, H2a and H2b were supported. Interestingly, income from television and other media revenues (ITOMR) had negative effect on fans and spectators attendance (FSA), but this effect was not significant. Moreover, the path coefficients of LS → ITOMR, and LS → FSA were significant at the 0.001 level. Thus, league scheduling (LS) had a strong positive effect on fans and spectators attendance (FSA), and income from television and other media revenues (ITOMR). According to the findings, H5d and $H5d_1$ were supported.

The path coefficients of Eng → FSA was significant at the 0.05 level. Thus, H5a was supported. Among the four Engage antecedents, nontransactional extra-role behaviors was significant at the $p<0.001$ level, thus validating $H5a_2$. Three hypothesized paths from the engage antecedents (nontransactional in-role behaviors, transactional in-role behaviors, transactional extra-role behaviors) to engage were significant at $p<0.05$, thus these findings support $H5a_1$, $H5a_3$, and $H5a_4$ respectively. The path coefficients of Motiv → FSA,

and Satis → FSA, were significant at the 0.05 and 0.001 levels respectively. Thus, H5b and H5c were supported. Three hypothesized paths from the satisfaction antecedents (service quality, club identification, win/lose phenomenon) to satisfaction were significant at $p<0.01$ or upper, thus validating $H5c_1$, $H5c_2$, and $H5c_3$ respectively.

Table 2 Correlations of latent variables

	FVL	SFL	Spon	**ITOMR**	**SLRMA**	FSA	Eng	NIRB	NERB	TIRB	TERB	Motiv	Satis	SQ	CI	WLP	LS	IES	SCF	Riv	SCI	Med
FVL	**0.83**	0.37	0.50	0.55	0.54	0.53	0.45	0.43	0.53	0.47	0.44	0.53	0.49	0.46	0.49	0.49	0.55	0.49	0.53	0.54	0.46	0.54
SFL		**0.81**	0.39	0.41	0.37	0.38	0.34	0.32	0.38	0.31	0.36	0.37	0.35	0.33	0.35	0.38	0.40	0.35	0.36	0.41	0.36	0.39
Spon			**0.85**	0.52	0.52	0.50	0.43	0.43	0.49	0.42	0.44	0.50	0.47	0.46	0.44	0.51	0.52	0.48	0.48	0.53	0.41	0.50
ITOMR				**0.91**	0.56	0.55	0.47	0.45	0.55	0.46	0.48	0.55	0.49	0.47	0.50	0.49	0.58	0.49	0.56	0.57	0.49	0.56
SLRMA					**0.87**	0.53	0.45	0.46	0.54	0.46	0.45	0.53	0.48	0.46	0.47	0.48	0.54	0.50	0.54	0.57	0.44	0.54
FSA						**087**	0.47	0.45	0.52	0.42	0.48	0.54	0.52	0.49	0.47	0.48	0.57	0.48	0.55	0.53	0.48	0.56
Eng							**0.71**	0.39	0.46	0.38	0.41	0.45	0.40	0.39	0.41	0.39	0.48	0.43	0.46	0.46	0.41	0.47
NIRB								**0.88**	0.44	0.36	0.40	0.43	0.40	0.43	0.41	0.41	0.46	0.41	0.45	0.44	0.33	0.46
NERB									**0.84**	0.44	0.47	0.52	0.47	0.44	0.49	0.45	0.55	0.49	0.53	0.54	0.45	0.54
TIRB										**0.73**	0.39	0.42	0.36	0.41	0.43	0.40	0.46	0.42	0.43	0.46	0.40	0.45
TERB											**0.81**	0.49	0.45	0.45	0.47	0.43	0.49	0.45	0.47	0.45	0.40	0.48
Motiv												**0.74**	0.49	0.46	0.49	0.47	0.56	0.48	0.54	0.54	0.47	0.55
Satis													**0.89**	0.44	0.43	0.45	0.50	0.43	0.50	0.47	0.41	0.48
SQ														**0.77**	0.45	0.45	0.49	0.47	0.45	0.47	0.37	0.47
CI															**0.80**	0.44	0.51	0.46	0.48	0.48	0.40	0.51
WLP																**0.86**	0.59	0.45	0.46	0.49	0.37	0.47
LS																	**0.91**	0.51	0.56	0.57	0.49	0.58
IES																		**0.79**	0.47	0.49	0.38	0.49
SCF																			**0.87**	0.53	0.45	0.55
Riv																				**0.88**	0.46	0.55
SCI																					**0.91**	0.49
Med																						**0.91**

As we expected, the path coefficient of WLP → CI was significant at the 0.001 level. Thus, H5c4 was supported. The hypothesized path from

investment and economic systems (IES) and socio-cultural factors (SCF) to fans and spectators attendance (FSA) were not significant. Thus, H5f and H5e were not supported. Two hypothesized paths from the socio-cultural factors antecedents (rivalry, media) to socio-cultural factors were significant at $p<0.001$, thus validating $H5e_1$ and $H5e_3$ respectively. But the hypothesized path from society-club interaction to socio-cultural factors was not significant.

The R^2 for club identification (CI), satisfaction (Satis), engage (Eng), income from television and other media revenues (ITOMR), socio-cultural factors (SCF), fans and spectators attendance (FSA), sponsorship (Spon), and financial viability of the league (FVL) were .712, .791, .773, .961, .912, .952, .848, and .919 reflecting that the model provides strong explanations of the variance in club identification, satisfaction, engage, income from television and other media revenues, socio-cultural factors, fans and spectators attendance, sponsorship, and financial viability of the league respectively.

Tenenhaus et al. (2004) formula was used to evaluate the Goodness-of-Fit (GoF) model. Accordingly, the GoF index for the research model was calculated 0.778. Wetzels et al. (2009) identified three values of 0.01, 0.25, and 0.36 as weak, medium, and strong values for the GoF index, respectively. According to the value obtained for this index, it can be concluded that the research model has a strong fit.

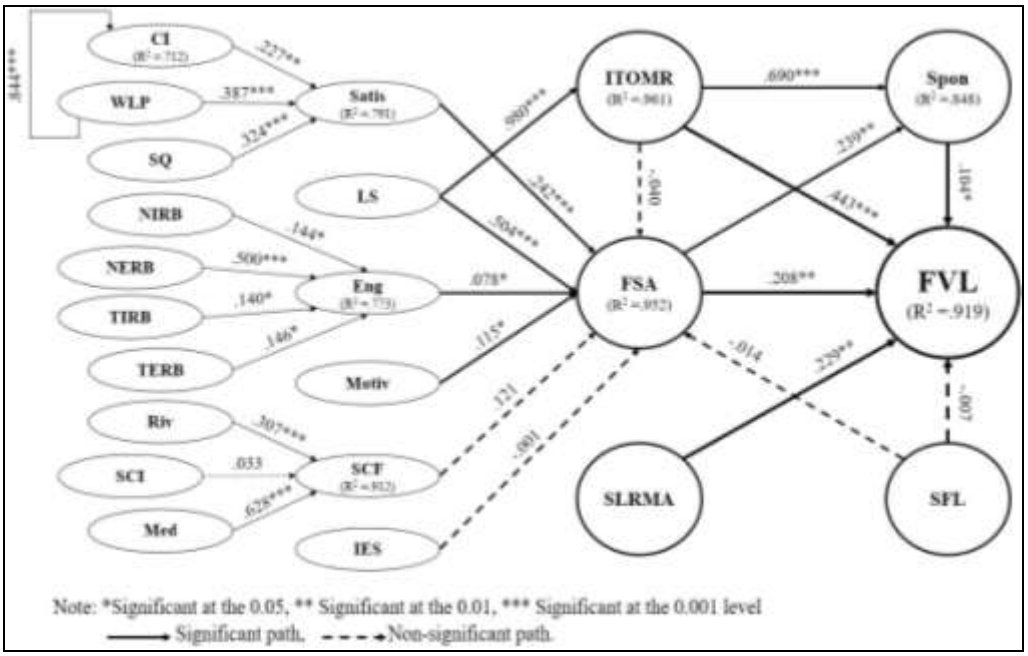

Fig 2 Results of structural model

DISCUSSION AND CONCLUSION

Past research has recognized that financial viability is an important factor in the success and sustainability of professional sport leagues (Mason, 1999; Apostolopoulou & Papudimitriou, 2004; Noll, 2007). Yet many researchers have not systematically explored how various factors affect financial viability, especially in the Iranian Handball Premier League. In this paper, based on the past literature we developed a model of the financial viability in Iranian

Handball Premier League that recognizes that the stadiums and facilities of the league (SFL), sponsorship (Spon), income from television and other media revenues (ITOMR), sale of league-related merchandise and apparel (SLRMA) and fans and spectators attendance (FSA) may directly influence financial viability of the league (FVL). Additionally, the financial viability model explores eight different factors (engage, motivation, satisfaction, league scheduling, investment and economic systems, socio-cultural factors, stadiums and facilities of the league, and income from television and other media revenues) that affect fans and spectators attendance in professional sport leagues.

Four main behaviors of engage have been identified in our proposed model including nontransactional in-role behaviors, nontransactional extra-role behaviors, transactional in-role behaviors, and transactional extra-role behaviors. We also note that the predictors of satisfaction are service quality (SQ), club identification (CI), and win/lose phenomenon (WLP) that can be directly or indirectly affect satisfaction of fans and spectators in professional sport leagues. We also note that the predictors of Socio-cultural factors are Rivalry (Riv), Society-club interaction (SCI), and Media (Med). Thus, the model and results likely will have the important practical implications for league managers who wish to maintain financial viability in professional sport leagues.

Research Findings

The empirical results suggest that sponsorship, income from television and other media revenues, sale of league-related merchandise and apparel, and fans and spectators attendance directly influence financial viability in Iranian Handball Premier League. An income from television and other media revenues has a strong positive effect on the financial viability of this league. Also, fans and spectators attendance and sale of league-related merchandise and apparel have a medium positive effect on the financial viability of this league. The sponsorship has a weak positive effect on the financial viability of this league. But, the stadiums and facilities of the league has not a significant effect on the financial viability in Iranian Handball Premier League. Thus, these findings validate the argument that sponsorship, income from television and other media revenues, sale of league-related merchandise and apparel, and fans and spectators attendance are important factors in financial viability, and thereby support our model.

Additionally, the empirical results suggest that income from television and other media revenues and fans and spectators attendance have a positive effect on the sponsorship. The results indicate that a league scheduling has a strong positive effect on income from television and other media revenues. The results show that satisfaction, league scheduling, engage, and motivation have a significant positive effect on fans and spectators attendance in Iranian Handball Premier League. But contrary to our expectations, income from television and other media revenues, socio-cultural factors, investment and economic systems, and the stadiums and facilities of the league have not a significant effect on fans and spectators attendance. This is not consistent with scholars' arguments (Greenwell et al., 2002; Noll, 2007; Brandes & Franck,

2007; Sharifian et al., 2014; Rostamzadeh et al., 2015; Kiuri & Teller, 2015; Storm et al., 2017). However, these issues are not yet resolved in the literature.

Finally, the results indicate that the all predictors of satisfaction (service quality, club identification, and win/lose phenomenon) have a strong positive effect on the satisfaction of fans and spectators in Iranian Handball Premier League. Also, a win/lose phenomenon has a strong positive effect on the club identification. Among the engage antecedents, it is interesting to note that nontransactional extra-role behaviors had strong influences on engage, whereas nontransactional in-role behaviors, transactional in-role behaviors, and transactional extra-role behaviors have a weak positive effect on the engage. We also found that among the socio-cultural factors antecedents, society-club interaction did not influence on socio-cultural factors, whereas rivalry and media have a strong positive effect on the Socio-cultural factors.

Theoretical and Practical Contributions

This study has both theoretical and practical contributions. From a theoretical perspective, the model of the financial viability of the league provides a holistic view of financial viability in the Iranian Handball Premier League, incorporating the effects of the stadiums and facilities of the league, sponsorship, income from television and other media revenues, sale of the league-related merchandise and apparel, and fans and spectators attendance. In addition, prior studies concomitantly have often not understood their relationships with each other or how they work independently or in combination to influence financial viability. Thus, our study provides perhaps the most comprehensive understanding to date of factors related to the financial viability in the Iranian Handball Premier League.

By distinguishing among the concepts both conceptually and empirically, we believe we have provided important insights into their distinct roles in the financial viability in the Iranian Handball Premier League. From a practical standpoint, the results highlight several engage-enhancing and satisfaction-enhancing factors that may guide the fans and spectators attendance in Iranian Handball Premier League. This can have a significant impact on the financial viability in Iranian Handball Premier League.

Thus, the theoretical framework and results may allow league managers to making more income by focusing on the factors identified in this study. More specifically, our results suggest that since sponsorship, income from television and other media revenues, sale of league-related merchandise and apparel, and fans and spectators attendance are predictors of financial viability in Iranian Handball Premier League, Therefore managers should pay particular attention to these factors in order to increase making income.

Limitations and Directions for Future Research

Future research will be needed to assess the generalizability of our findings. While our research participants reflect a fairly typical band of actual and potential league consumers, they may not be representative of all stakeholders of the Iranian Handball Premier League. Despite the fact that our model may predict the views of all stakeholders of the Iranian Handball Premier League,

it is difficult to consider individual differences in such models. Yet research is needed to consider whether this is so.

Although our model received strong empirical support, we would also like to recognize the possibility of alternative models for understanding the relationships among the constructs examined in our study. For instance, our proposed model assumes that Rivalry and Media variables influence fan and spectator attendance via their effect on Socio-cultural factors. In other words, we have proposed that Socio-cultural factors functions as a mediator. Research works by Havard (2014) and Sharifian et al (2014) suggests that these factors might influence fan and spectator attendance directly, rather than indirectly via Socio-cultural factors.

Given the early stage of research on the topic of the financial viability in the Iranian Handball Premier League, our aim in the present study was only to test the theoretical framework of the study, not advocate one particular model or framework over another. Thus, future research may fruitfully consider how these alternative models of the relationships among factors related to the financial viability in the Iranian Handball Premier League, and their antecedents, may complement or contradict each other, the various conditions under which the models may or may not hold, and ways in which the models might potentially be integrated.

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