SPORTS SUCCESS PREDICTION MODELS IN TEAM SPORTS OF FOOTBALL, BASKETBALL, HANDBALL AND VOLEYBALL

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Abstract

The main determinant of success and mission of sporting industry is competition quality and attractiveness of primary and complementary sports product. Analysis of mega trends indicate that the plan will be based on the successful development of the sports organizations of top sports achievements in this century, where the innovative models of management of sports organizations have a very important role. That is why we based this research on application of scientifically objectified methodology of prediction model creation in team sports organizations (football, basketball, volleyball and handball) in Sarajevo Canton during 2003/04 season. Within the frame of these sports we achieve sustainable development on the market. Using multiple regression analysis, actually, stepwise method of predictor inclusion in prediction model, we objectified and confirmed sports success prediction model according which it is possible to reliably design and develop sports organization management models of team sports sustainable development. Within a frame of this statistical procedure, coefficients of multiple correlations and regression (beta) coefficients were calculated and the selection of independent variables that most contribute to its prediction was conducted.Based on percentage value of described criteria determinacy variance it was concluded that model 8 presents sports success prediction model of team sports organizations/clubs of (football, basketball, volleyball and handball) in Sarajevo Canton during 2003/04 season. Significant percentage of described predictor variable variance, titular of right to ownership in prediction model of sports success indicates significant presence of sports organizations dispose over property they hold. According analysis results it was determined that scientific model of sport success prediction has valuable predictive power considering the sum of totally described variances in ambient conditions of external environment which confirms scientific basis of designing and objectifying prediction models.

Key words: *design, prediction, model, sport success*

Introduction

Starting point of this research is a high involvement of marketing and entrepreneur part regarding quality of offered sports product (basic, complementary and business) within team sports (football, basketball, handball and volleyball) of Sarajevo Canton sporting subsystem. It is obvious that the key factor of sport success of each sports organization is "attractive" sports product/service. This factor maintains complete "mission" balance which is also the purpose of existence and the role of sporting activity itself. Such sports organizations have characteristics of complex organizational and economic structures and their success depends on management and quality of management strategy success. Research-methodological frame in this work is based on appliance of scientifically objectified methodology of model creation of business success prediction for team sports of Sarajevo Canton in 2003/04 Season (football, volleyball, basketball and handball) by which, within the framework of these sports, we reach sustainable development on the market. Such methodology of sports success prediction model could have wider application to other sports organizations in Bosnia and Herzegovina and surrounding countries.

Problem and aim

The research refers to appliance of modern design approach and process of innovation, according which we analyze management model structures and estimate quality management system of sports organizations aimed at sustainable development of football, basketball, volleyball and handball. The goal of this research is design and implementation of methodology evaluation of management structure model and model of business and sport success prediction based on result generalization of analyzed team sport clubs of Sarajevo Canton in 2003/04 Season. These sports are able to achieve financially sustainable development in the system of competition on the Canton, international, Europe and world level.

Methods

The sample of respondents for this research was defined as the cluster of 62 analyzed team sport clubs (football, basketball, volleyball and handball) in Sarajevo Canton during 2003/04 season, which were previously determined to have high level of marketing and entrepreneurial potential (Mašala, 2002). For this research purposes we analyzed 51 criteria variable of generically significant segments.

Those criteria were: Business success (POUSP), percentage of club advertisement income expressed in money (PRREKL) , percentage of club donation income expressed in money (PRDONAC), percentage of club budget income expressed in money (PRBUDZ), percentage of planned club requirements expressed in money (FINPOT), percentage of totally realized financial craft expressed in money (FINOBRT), percentage of club ticket selling income expressed in money (PRULAZN), percentage of club's TV broadcast income expressed in money (PRTVPREN), percentage of club's player compensation income expressed in money (PROBTAKM), percentage of club's membership income expressed in money (PRCLANR), percentage of club's sponsorship income expressed in money (PRSPONZ), percentage of club's facility renting income expressed in money (PRTEREN), percentage of club's equipment renting income expressed in money (PROPREM), percentage of club's business entity income expressed in money (PRPOSUBJ), percentage of private fund income engaged in the club expressed in money (PRLSREDS), percentage of club's other income (PROSTAL), president of sports organization (PREDS), director of sport organizations (DIR), sport's organization consultant (KONS), sport's organization general assistant (GSEK), sport's organization sports director (SPDIR), sport's organization marketing and public relations director (DMPTP), sport's organization scout team manager (MENG), Head of facility maintenance dep. (SEFOD), Head of Professional staff dep. (SSTAB1), coach A (TRENA), coach B (TRENB), coach C (TRENC), team leader of the youth (TLOP), sport school team leader (TLSS), Head of monitoring department (SEFOM), number of officially held sport events – senior men (ZVMANSM), officially held sports events totally – senior women (ZVMANSZ),), number of officially held sport events – junior men (ZVMANJM), number of officially held sport events – junior women (ZVMANJZ), number of officially held sport events – cadets men (ZVMANKM), number of officially held sport events – cadets women (ZVMANKZ), number of officially held sports events – seniors (UKZMANS), attendance by one official event (POSJECEN), number of TV announcements (TVOBJ), number of TV commentaries (TVKOM), number of TV broadcasts (TVPREN), number of radio announcements (RDIOOBJ), number of radio commentaries (TVKOM), number of radio broadcasts (RADIOPREN), number of newspaper announcements (NOVINOBJ), number of newspaper commentaries (NOVIKOM), number of professional staff engaged totally (UBSTRK), number of engaged licensed professional staff totally (UBSKLIC) and spots success (SPUSP). With the aim to determine and objectify model of business success we applied multiple regression analysis procedure, actually, stepwise method of predictor inclusion in prediction model. Within this statistical procedure, the coefficients of multiple correlations and regression (beta) coefficients were calculated, as well as the levels of their significance and the selection of independent variables that most contribute to its prediction was conducted.

Results and discussion

Statistically significant parameters of multiple correlation predictor variables, essential for selection of sports success prediction model are presented in a table 1.

Table 1. Multiple regression analysis (model summary)

Model	R	R Square	Adjusted R Square	Std. Error of Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	,6	,41	,40	15,51	,41	40,70	1	59	,000
2	,7	,51	,49	14,22	,10	12,19	1	58	,001
3	,7	,60	,58	12,94	,09	13,03	1	57	,001
4	,8	,67	,65	11,87	,07	11,74	1	56	,001
5	,8	,71	,68	11,24	,04	7,51	1	55	,008
6	,8	,75	,72	10,63	,04	7,53	1	54	,008
7	,8	,74	,71	10,70	-,01	1,79	1	54	,187
8	,8	,77	,74	10,12	,03	7,46	1	54	,008

a. Predictors: (Constant), UKZMANS
b. Predictors: (Constant), UKZMANS, NOVI KOM
c. Predictors: (Constant), UKZMANS, NOVIKOM, ZVMANSZ
d. Predictors: (Constant), UKZMANS, NOVIKOM, ZVMANSZ, DMPTP
e. Predictors: (Constant), UKZMANS, NOVIKOM, ZVMANSZ, DMPTP, TPRVLAS
f. Predictors: (Constant), UKZMANS, NOVIKOM, ZVMANSZ, DMPTP, TPRVLAS, TVPREN
g. Predictors: (Constant), UKZMANS, ZVMANSZ, DMPTP, TPRVLAS, TVPREN
h. Predictors: (Constant), UKZMANS, ZVMANSZ, DMPTP, TPRVLAS, TVPREN, PRLSREDS

According to multiple regression analysis applied we noted eight (8) statistically significant multiple correlations and eight (8) different variable combinations of sports success predictors. According to values of R-coefficient of multiple correlation, number of predictors and how big prognosis error is, we can conclude that model 8 (R=.877) which included six significant predictor variables shows the biggest power of prediction. Table 1. On the other hand model 6 has a less significant predictive value (R=.864) with the same number of predictor variables as in a model 8. This model differs according to involvement of predictor variable number of newspaper commentaries (NOVIKOM) regarding predictor variable of model 8 private funding income (PRLSREDS). Combination of predictor variables model 8 reveals specificity in sports public environment and sports employees' enthusiasm, e.g. sports employees, in situations of insufficient funds needed for training and competitions, participate with their own private funds, which proves this model as an extraordinary in selection of predictor model. Model of sports success 7 with predictive power (R=.859) differs from model 6 and model 8 for one less predictive variable (5 specified variables), which indicates possibility for better economics in sports success prediction model. However, insufficient enthusiasm of the sports employees reflected through the exclusion of variable private funds income (PRLSREDS), which is not the case in model 8, may be a risk factor for its acceptance as a model of prediction. According to predictive value of model 8 we can conclude that the best indicators of sports success prediction model connected to the main sports product include following variables; number of officially held sports events man and women senior (UKZMANS), director of marketing (DMPTP), titular about right to dispose property (TPRVLAS), number of TV broadcasting (TVPREN) and private funds income (PRLSREDS). The main characteristic of model 8 is existence of attractive sports product expressed in variables of manifestations interesting for both man and women of analyzed sports. Manager's potential of analyzed sports organizations was averagely directed to connecting basic sports product with TV broadcasting which results in multiple effects of sports success promotion and is confirmed with inclusion of predictor variables director of marketing and number of TV broadcasting. This additionally justifies selection of model 8 as sports success predictor model. Successful functioning of this model is conditioned by titular of right to dispose property. This titular is determined as significant predictor model of sports success. By personal funding of sports employees in sports organizations we ensure operative reserve funding which enables their participation in sports manifestations that is essential for sports success.

Testing of multiple correlation coefficient statistical significance R was conducted with appliance of univariant variance analysis ANOVA (table 2).

Table 2. Univariant variance analysis – ANOVA

Model		df	F	Sig.	
1	Regression Residual Total	1 59 60	40,70	,000	a
2	Regression Residual Total	2 58 60	30,31	,000	b
3	Regression Residual Total	3 57 60	28,74	,000	c
4	Regression Residual Total	4 56 60	28,55	,000	d
5	Regression Residual Total	5 55 60	27,00	,000	e
6	Regression Residual Total	6 54 60	26,42	,000	f
7	Regression Residual Total	5 55 60	30,91	,000	g
8	Regression Residual Total	6 54 60	30,03	,000	h

a. Predictors: (Constant), UKZMANS
b. Predictors: (Constant), UKZMANS, NOVIKOM
c. Predictors: (Constant), UKZMANS, NOVIKOM, ZVMANSZ
d. Predictors: (Constant), UKZMANS, NOVIKOM, ZVMANSZ, DMPTP
e. Predictors: (Constant), UKZMANS, NOVIKOM, ZVMANSZ, DMPTP, TPRVLAS
f. Predictors: (Constant), UKZMANS, NOVIKOM, ZVMANSZ, DMPTP, TPRVLAS, TVPREN
g. Predictors: (Constant), UKZMANS, ZVMANSZ, DMPTP, TPRVLAS, TVPREN
h. Predictors: (Constant), UKZMANS, ZVMANSZ, DMPTP, TPRVLAS, TVPREN, PRLSREDS
i. Dependent Variable: SPUSP

Using result parameters of univariant variance analysis – ANOVA 8 models of sports success prediction was analyzed and according to these models we confirmed the biggest predictive power statistically. Significance of model 8 based on included predictor variables their economics and ratio of predicted variance results and variance error (residual) was also confirmed. In further analysis procedure, according to t-tests value results and the level of significance, statistical significance of standardized beta coefficients, which indicate the change between criteria values and the unit of predictor value change, was determined, table 3.

According to the value results, t-tests level of significance and statistical significance of beta coefficients it was confirmed that the biggest individual contribution in all separated prediction models of sports success indicates number of manifestations men and women senior variable (UKZMANS). The reason for such prediction levels lies in a fact that total number of manifestations senior men and women variable is the most important part of main sports product which reflects through attractiveness, publicity and attendance on sports competitions.

Verifying percentage of each predictor participating in model 8 was conducted according to product value of Pearson's predictor coefficient correlation (table4) and standardized beta coefficient values, presented in table 3. The values of Pearson's predictor coefficient correlation in model 8 and sports success variable (SPUSP) was presented in table 4.

Table 3. Values of beta-coefficients and t-test

Model		Unst. Coeff.		Stand. Coeff.		
		B	Std.	Beta	t	Sig.
1	(Constant)	-,31	3,35		-,09	,93
	UKZMANS	,66	,10	,64	6,38	,00
2	(Constant)	,35	3,08		,11	,91
	UKZMANS	,54	,10	,52	5,26	,00
	NOVIKOM	,18	,05	,34	3,49	,00
3	(Constant)	,34	2,80		,12	,90
	UKZMANS	,44	,10	,43	4,57	,00
	NOVIKOM	,17	,05	,33	3,64	,00
	ZVMANSZ	,61	,17	,32	3,61	,00
4	(Constant)	1,22	2,58		,47	,64
	UKZMANS	,33	,09	,32	3,53	,00
	NOVIKOM	,11	,05	,20	2,24	,03
	ZVMANSZ	,80	,17	,41	4,84	,00
	DMPTP	21,47	6,27	,32	3,43	,00
5	(Constant)	-3,19	2,92		-	,28
	UKZMANS	,35	,09	,34	3,90	,00
	NOVIKOM	,09	,05	,17	1,96	,06
	ZVMANSZ	,69	,16	,36	4,26	,00
	DMPTP	22,12	5,94	,33	3,73	,00
	TPRVLAS	8,38	3,06	,21	2,74	,01
6	(Constant)	-2,85	2,77		-	,31
	UKZMANS	,29	,09	,29	3,28	,00
	NOVIKOM	,06	,04	,11	1,34	,19
	ZVMANSZ	,71	,15	,37	4,62	,00
	DMPTP	21,00	5,63	,32	3,73	,00
	TPRVLAS	8,63	2,89	,22	2,98	,00
	TVPREN	,72	,26	,21	2,74	,01
7	(Constant)	-3,13	2,78		-	,27
	UKZMANS	,30	,09	,29	3,38	,00
	ZVMANSZ	,74	,15	,38	4,82	,00
	DMPTP	23,81	5,26	,36	4,53	,00
	TPRVLAS	9,19	2,88	,23	3,19	,00
	TVPREN	,81	,26	,24	3,15	,00
8	(Constant)	-3,50	2,63		-	,19
	UKZMANS	,31	,08	,30	3,79	,00
	ZVMANSZ	,63	,15	,33	4,23	,00
	DMPTP	23,21	4,98	,35	4,66	,00
	TPRVLAS	8,89	2,73	,22	3,26	,00
	TVPREN	,83	,24	,25	3,43	,00
	PRLSREDS	2,91	1,07	,19	2,73	,01

Dependent Variable: SPUSP

Table 4. Pearson's correlation coefficients of model 8 and sports success

		SPUSP
Pearson Correlation	SPUSP	1,00
	UKZMANS	,64
	ZVMANSZ	,50
	DMPTP	,48
	TPRVLAS	,34
	TVPREN	,49
	PRLSREDS	,27

Obtained results of correlation coefficient were included in further analysis of sports success prediction model presented in a following table. In this table we also presented derived variance percentage of determination values which are used to describe participation of some predictors included in optimal prediction model – model 8.

Percentage values were derived from beta coefficient and Pearson's correlation coefficient and calculated according to form: Percentage of described criteria variance = beta coefficient x Pearson r x 100 (%). The way of deriving described percentage values from beta coefficient and Pearson's correlation coefficient as well as percentage variance values of model 8 and certain predictors is presented in table 5

Table 5. Model 8 – sports success model

Predictor	Pearson's R	Stand BETA	(%)
UKZMANS	0,64	0,30	19,42
DMPTP	0,49	0,35	16,56
ZVMANSZ	0,50	0,33	16,30
TVPREN	0,49	0,25	12,05
TPRVLAS	0,34	0,22	7,63
PRLSREDS	0,27	0,19	4,98
Total (%)			76,94

According to percentage value of described criteria determination we can conclude that model 8 presents a model of sports success prediction for team sports organizations/ clubs such as football, basketball, volleyball and handball sports of Sarajevo Canton during 2003/04 season and it was described with 76,94% of total variance. The biggest contribution per percent in describing total variance has variable ;total number of manifestations senior men and women, in all separated sports success prediction models which is 19,42% of totally described variance. Thus significant percentage of predictor's variable totally described variance of sports success model confirms the significance of sports competition as the main sports product on the market of analyzed sports organizations. The two variables: director of marketing (DMPTP) which describes 16, 56% variance and variable; total number of manifestations – senior women (ZVMANSZ) with 16, 30% of totally described variance in sports success prediction model are almost equal. With percentage values of these two predictor variables we confirm potential of sports organizations which are based on transfer of sports managers' modern knowledge. These managers attempt to equally provide level of attractiveness and interest of general public regarding competitions in category of senior women. Conclusion of main sports product significant values of analyzed sports organizations in team sports such as football, basketball, volleyball and handball in Sarajevo Canton can be described with percentage of predictor variable.

Total number of TV broadcast (TVPREN) which is 12,05% of totally described variance in sports success prediction model which confirms interest of media public for this type of sports. With percentage of prediction variable Titular about right to dispose property (TPRVLAS) which is 7,63% of totally described variance in sports success prediction model we emphasize importance of establishing the right to dispose property in sports organizations. This also confirms that the success of management functions in sports organizations, in a domain of development strategy, is conditioned with ownership structure identification of all types of ownership. Percentage of variable; private funds income (PRLSREDS) which is 4,9% of totally described variance, explains the selection and specificity of sports success prediction model. The specificity reflects in the fact that with investing personal funds of sports employees in sports organizations they ensure financial functioning of sports organizations in critical situations (lack of financial resources). The participation of predictor variables in sports success prediction model is presented in Chart 1.

Chart 1. Model of sports success (percentages of explained variance)
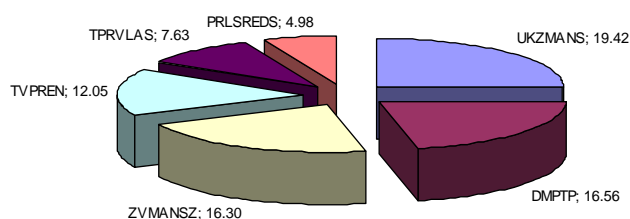
Conclusion

With this research we confirmed formation of innovative, scientific – methodological frame of objectifying management model of team sports organizations (football, basketball, volleyball and handball) in Sarajevo Canton that can be basic for conclusions of other type of sports organizations (locally and wider) in order to achieve successful business and sports results, sustainable development on the market as well as additional scientific contribution to innovative management.

According to percentage of totally described variance for success model and included predictors it is possible to predict appliance of sports success 76, 95% of totally described variance as well as included predictors and with significant certainty predicts its application in environmental conditions of external environment. According to percentage of totally described model of success variance as well as predictors included, it is possible to predict appliance of sports success 76, 95% in environmental conditions of external environment.

With the results of conducted analysis we confirmed scientific basis of presented prediction model of sports success, and we can conclude that with designing scientific management models of sustainable development sports organizations, we are creating environment for bigger investments in sports and thus empower their mission.

Literature

Bonacin, D. (2009) *Uvod u kvantitativne metode*. /In Croatian/ (Introduction to quantity methods). Travnik: Edukacijski fakultet.

Bonacin, D., Bonacin, Da., & Bilić, Ž. (2009) Model and algorithm for hierarchical analysis. *Sport Science, 2*(1): 78-83.

Bonacin, Da. (2008) *Optimizacija klasično dizajnirane strukture sportske organizacije* /In Croatian/ (Optimisation of classically designed structure of sports organisation). (Bachelor thesis). Sarajevo: Fakultet sporta i tjelesnog odgoja.

Bonacin, Da., Bonacin, D., & Rađo, I. (2009) Local and global interaction of sport organization within society. *Acta Kinesiologica, 3*(1): 89-93.

Bonacin, Da., Rađo, I., & Bonacin, D. (2009) Optimisation of traditionally designed structure of sports organization. *Acta Kinesiologica, 2*(2): 75-84.

Čičić, M. (1985) *Poslovni i društveni aspekti marketinga* /In Bosnian/. (Dissertation), Sarajevo: Ekonomski fakultet.

Drucker, P. (1992) *Managing for Future*. New York: Truman Talley Bosks.

Drucker, P. (2005) *Najvažnije o menadžmentu* /In Croatian/. Zagreb: M.E.P.Consult.

Goleman, D. (2001) *Emocionalna inteligencija* /In Serbian/. Beograd: Čigoja štampa.

Hernandez, R.A. (2002) *Managing sport organisation – Sport & Recreation*. New York: McGraw-Hill.

Hitt, M., Ireland, C., & Hoskisson, R. (1999) *Strategic Management: Competetiveness and Globalization.* New York: Sout-Western College Publishing Company.

Howard, D.R., & Crompton, J.L. (1995) *Financing Sport*. Morgantown: Fitness Info Tech.

Hurvicz, L. (1973) Design of Mechanism for Resource Allocation. *American Econ Review; 63*(2): 1-30.

Irwin, R.L., McCarthy, L.M., & Sutton, W.A. (2002) *Sport Promotion and Sales Management*. New York: Human Kinetics.

Luhmann, N. (1968) *Teorija sistema - svrhovitost i racionalnost* /In Croatian/. Zagreb: Globus.

Malacko J., & Rađo, I. (2006) *Menadžment ljudskih resursa u sportu* /In Bosnian/. Sarajevo: Fakultet sporta i tjelesnog odgoja.

Malacko J., & Rađo, I. (2004) *Tehnologija sporta i sportskog treninga* /In Bosnian/.Sarajevo: Fakultet sporta i tjelesnog odgoja.

Mašala A. (2008) *Modeli menadžmenta sportskih organizacija održivog razvoja* /In Bosnian/. (Dissertation). Sarajevo: Fakultet sporta i tjelesnog odgoja.

Mašala A. (2002) *Mogućnost i opravdanost tranzicije sportskog podsistema Kantona Sarajevo na konceptu savremenog marketinga* /In Bosnian/. (Master thesis). Tuzla: Filozofski fakultet.

Mašala, A. (2003) Metodološki pristup modelovanju kriterijskih varijabli marketinškog potencijala podsistema sporta Kantona Sarajevo /In Bosnian/. *Sport u teoriji i praksi, 6*: 35.

Mašala, A. (2003). Metodologija konstruisanja modela za procjenu poduzetničkog potencijala sportova podsistema sporta Kantona Sarajevo /In Bosnian/. *Sport u teoriji i praksi, 7*: 91.

Mašala, A. (2003) Sportski proizvodi timskih sportova i struktura medijskog praćenja /In Bosnian/. *Sport u teoriji i praksi, 7*: 97.

Muller, Z.J. (1990) Budućnost kapitalizma /In Serbian/. *Pregled, 248*: 2-7.

Odiorne, G. (1970) *Management by Objectives, Sistem of Managerial Leadership.* London: Pitman Publishing.

Papić, M. (2005) *Primijenjena statistika u MS Exelu* /In Croatian/. Zagreb: Zoro doo.

Petz, B. (1985) *Osnove statističke metode za nematematičare* /In Croatian/. Zagreb: Sv. naklada liber.

Rađo, I., & Wolf, B. (2002) *Kvantitativne metode u sportu* /In Bosnian/*.* Sarajevo: Fakultet sporta i TO.

Šunje, A. (2001) Menadžeri bez granica /In Bosnian/. *Porezni savjetnik, 4*(1): 96-99.

Šunje, A. (2002) *Top menadžer,vizionar i strateg* /In Bosnian/. Sarajevo: Tirada.

Thoma, J.E., & Chalip, L. (1996) *Sport Governance in the Global Community*. Morgantown: Fitness IT.

Tomić, M. (2001) *Menadžment u sportu* /In Serbian/. Beograd: ASTIBO.

Weihrich, H., & Koontz, H. (1998) *Menadžment* /In Croatian/. Zagreb: Mate doo.

* * * (1996) A financial and structural analysis sports clubs in Germany. /Council of Europe CDDS/. *Sports information bulletin, 8*(42): 112-113. Bruxeles: Clearing House.

MODELI PREDIKCIJE SPORTSKOG USPJEHA TIMSKIH SPORTOVA NOGOMETA, KOŠARKE, RUKOMETA I ODBOJKE

Sažetak

Kompeticija kvalitetom i atraktivnost osnovnih i komplementarnih sportskih proizvoda glavna je odrednica misije i uspješnosti sportske industrije. Razmatranja mega trendova ukazuju da će se na tom planu zasnivati uspješni razvoj sportskih organizacija vrhunskih sportskih dostignuća u ovom stoljeću, pri čemu će inovativni modeli menadžmenta sportskih organizacija imati veoma značajnu ulogu. Zbog toga je ovaj istraživački rad zasnovan na primjeni znanstveno objektivizirane metodologije kriranja modela predikcije sportskog uspjeha sportskih organizacija timskih sportova Kantona Sarajevo u sezoni 2003/2004 (nogomet, košarka, odbojka i rukomet) kojima se u okviru ovih sportova dostiže održivi razvoj na tržištu. Statističkim postupkom Multiple regresijske analize, step-wise metode inkluzije prediktora u model predikcije, objektiviziran je i potvrđen model predikcije sportskog uspjeha na osnovu kojeg je moguće sa velikom pouzdanošću projektirati i razvijati modele menadžmenta sportskih organizacija održivog razvoja timskih sportova. U okviru ovog postupka izračunati su koeficijenti multiple korelacije, razine njihove značajnosti, regresijski (beta) koeficijenti i proveden odabir nezavisnih varijabli koje najviše doprinose njihovoj predikciji. Na temelju vrijednosti postotka objašnjene varijance kriterija konstatirano je da model 8 predstavlja model predikcije sportskog uspjeha sportskih organizacija/klubova timskih sportova nogometa, košarke, odbojke i rukometa Kantona Sarajevo za sezonu 2003/04. Zanačajnim postotkom objašnjene varijance prediktorske varijable titular prava raspolaganja vlasništvom u predikciji modela sportskog uspjeha ukazuje se na značajno prisustvo prava raspolaganja sportskih organizacija nad vlasništvom kojim raspolažu. Na temelju rezultata analize utvrđeno je da znanstveno utemeljen model predikcije sportskog uspjeha ima značajnu prediktivnu moć uzimajući u obzir količinu ukupno objašnjene varijance u ambijentalnim uvjetima eksternog okruženja čime se potvrđuje znanstvena utemeljenost projektiranja i objektiviziranja predikcijskih modela.

Ključne riječi: *projektiranje, predikcija, model, sportski uspjeh*