

# The influence of the social-economic indicator for creation of sport-recreation offers of the sports objects in Canton Sarajevo

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*Original scientific paper*

## Abstract

The goal is to determine the relationship between social economic indications (age, education, employment, and net salaries) and the way of creating the sports recreation offers in sport objects of Kanton Sarajevo. For the needs of this work there were 17 variables used (5 criteria's, 12 predictors) on the sample of 90 interviews from different ages. The processing of this data was used regression analysis. During the work it was determined that the recreational players from the governmental sector rather includes in to individual sport services, and that the commercial sector rather chooses the team sports. The variable, other kinds of recreation, that was treated in this work - research in negative correlation with the people between ages 18-30, and the positive correlation with the people aged from 31 - 50 years old. That means that the group of people between ages of 18-30 rather use recreational services: form of a sport recreation- soccer, form of sport recreation – basketball, form of sport recreation- fitness, and that the people between age of 31 -50 rather choose another kind of sport recreation (walking, swimming, skiing, biking, table tennis, tennis, and running).

Key words: **Sport Objects, social-economic indicators, sport recreation influence**

## Introduction

Sports Market is made of individual groups of people and organizations that have the need and idea for exchange of goods ideas, services, and programs of nature sports. From the inner and outer environment of the sports industry. The situation on the market of sport is constantly being changed and its necessary to periodically make a marketing investigation that is important support for bringing marketing decisions (Bartoluci, 1997). Today it's not possible to think about the market as a homogeneous units, because it is necessary to recognize that the market is made of groups of buyers who are different in their needs, habits, and behavior (Shank, 2002). One of the special, research procedures in sports marketing is the segmentation of the market. The term segmentation can be defined as a division of the market to groups of consumers with similar needs and habits in shopping, where at every segment is being defined to its adjusted marketing mix (Jurkovic et al., 1995). The segmentation of the market is the start point of a successful marketing concept and strategically planning. The basics of segmentation include different characteristics of the market as the demographic in social, economical, geographical behavior of the consumer's attitudes and preferences for some attractions and experiences. The variables for segmentation of the market that are usually being used are: geographical variables, demographical variables, economical

variables, and psychological variables. The most frequently used method is social demographical method of segmentation of the market that is being preceded by dividing the market by variables: (age, standard of living, income, education, profession, religious racial and national affiliation etc.). (Dibb et al.,1991). Related to that in this work there will be made an investigation in the effort to exam the influence of the demographical indicators on the representation in positioning of the products /services of sports recreations on the sport marketing.

## Methods

In the investigation there was processed one sample that was selected by age, qualification structure and work status of the user's services. The final sample was made out of 90 interviews and potential service users, their determination for using the sport recreation offer in Kanton Sarajevo, and their need as sport consumers. Based on their age the interviews were classified:

- a). From 18- 30 years old were 48 interviews
- b). From 31-50 years old were 35 interviews
- c). Over 51 years old were 7 interviews

Based on the level of education the interviews were classified:

- a) Middle School educated were 30 interviews

- b) High School educated were 17 interviews
- c) College Educated were 43 interviews

All of the interviews were male.

According to work sector the sample was divided to: 32 interviews of the commercial sector, 29 interviews of the NGO, and 29 interviews from government sector.

**Sample of Variables**

Sample of Variables is made of 17 variables (Dependant and independent)

**Criteria of Variables**

- 1. Form of Sports recreation –Soccer
- 2. Form of Sports recreation- Basketball
- 3. Form of Sport recreation-Fitness
- 4. is not included in sport activity
- 5. Other form of recreation

**Predicator Variables:**

- 1. Age of interview from 18-30 years
- 2. Age of interviews from 30-50 years
- 3. Age of interviews over 50 years
- 4. Level of education ( Middle school)
- 5. Level of education ( High school)
- 6. Level of education(College)

- 7. Work status of interviews in the commercial sector
- 8. Work status of the interviews in the NGO sector
- 9. Work status of the interviews in the government sector
- 10. Monthly income of the interviews from 441,11 to 818,89KM
- 11. Monthly income of the interviews to 818,89 KM
- 12. Monthly income of the interviews higher than 818,89 KM

The data used in the investigation were collected by the method of survey (personal contact and e-mail) and statistically evaluated in percentages.

**Methods of data processed**

Based on the determined goal, task and the researched subject and to get science knowledge the tested example of the interviews was processed in the SPSS program. In this work the methods of inferential statistics that were used are persons coefficient of correlation, logistical regression (regression coefficient, Wald, the quotient of the like hood, pseudocorelational coefficient , coefficient of correlation, Hi-quadrade and omnibus tests of significant. The values and levels of significance of Pearsons coefficients of correlation in the investigation of the relationships between some, in one hand socio - economical variables and segments of sports market, and in the other the using of specific sports services (products) are showed in the Tabel 1.:

**Tabel 1.** The values and levels of significance of Pearsons coefficients of correlation.

Predicator variable	Pearsons coefficient of corelation	Sport services (criteria)				
		Soccer	Basketball	Fitness	Not included in sports activities	Other kind of recreation
Age category from 18-30years old	Corelation	0,375	-0,141	0,000	-0,065	<b>-0,313</b>
	Level of significance	<b>0,000 **</b>	0,185	1,000	0,544	<b>0,003 **</b>
Age category from 30-50 years old	Corelation	-0,305	0,045	0,071	0,105	<b>0,321</b>
	Level of significance	<b>0,004 **</b>	0,676	0,504	0,325	<b>0,002 **</b>
Age category over 50 years	Corelation	-0,144	0,181	-0,130	-0,070	<b>-0,001</b>
	Level of significance	0,175	0,088	0,222	0,509	<b>0,990</b>
Category middle school educated	Corelation	0,189	0,017	-0,190	0,034	<b>-0,022</b>
	Level of significance	0,074	0,871	0,073	0,748	<b>0,834</b>
Category high school educated	Corelation	-0,061	0,256	0,089	-0,117	<b>-0,037</b>
	Level of significance	0,570	0,015 *	0,405	0,272	<b>0,731</b>
Category College educated	Corelation	-0,131	-0,217	0,109	0,059	<b>0,050</b>
	Level of significance	0,219	0,040 *	0,305	0,578	<b>0,640</b>
Commercial sector	Corelation	-0,003	0,141	-0,270	0,023	<b>0,025</b>
	Level of significance	0,977	0,185	0,010 *	0,833	<b>0,815</b>
NGO sector	Corelation	0,168	-0,020	-0,181	-0,167	<b>0,055</b>
	Level of significance	0,113	0,853	0,088	0,115	<b>0,608</b>
Government sector	Corelation	-0,165	-0,125	0,457	0,144	<b>-0,080</b>
	Level of significance	0,120	0,241	<b>0,000 **</b>	0,175	<b>0,451</b>
Monthly income (to 818,89 KM -> 818,89 KM	Corelation	-0,307	0,106	0,190	0,070	<b>0,068</b>
	Level of significance	<b>0,003 **</b>	<b>0,320</b>	<b>0,074</b>	<b>0,510</b>	<b>0,522</b>

In table number 1 you can see that for the predictor of using different sport services there are different predictors, in fact independent variables and their combinations. If you look at soccer, it is in a important positive correlation with people aged from 18-30 years, and in a important negative correlation with people aged from 31-50 years and in a negative correlation with the monthly income. That means that if somebody is aged from 28-30 years there are bigger they will use soccer and if they belong to age group 31-50 or if their salary is bigger than 818,89KM there is less chance they will use this service. The service basketball importantly and positively correlates with high school educated interviews and important negative correlates with college educated people. In average interviews with high school education are more included in basketball, and those with college education are less being included in that sport activity. Fitness as a sport service has a negative correlation with the commercial sector and positive correlation with the government sector. That means that the interviews who are working in the commercial sector are less using this service compared to other interviews, and those who work in the government sector in average include themselves more in fitness. Not including in kind of sport activity by itself isn't connected to any of the social-demographic variables and segment of sport market. When it comes to other sport services there in negative correlation to the variable of people aged from 18-30 years and in positive correlation with variable of people aged from 30 to 50 years. The review of the values of quadrate multiple pseudo correlation coefficient for some models of prediction for using some sport services (Soccer, Basketball, Fitness, not included in sport recreation and other kind of sport recreation) based on predictor variables who refer to social economical variables (life age of the group , level of education, work status, net salary) and segments of sports marketing, sectors in which the interviews are employed( commercial sector, government sector, NGO sector) is showed in table 2.

When it comes to soccer there were separated two important models of prediction of using this sport service/activity. The first model which includes predictors variable from 18-30 in its structure can explain 13,4 and 17,9 % of variation in using and not using this sport service, and the other model which includes predictor variables of people aged from 18-30 and monthly income can explain between 17,9 and 23,9 % variations of using this sport service. For Basketball there were separated two models of prediction also. The first model which includes the predictor variable of people high school educated is explained between 5,9 and 8,4% variation in using this sport service, and the other model which includes predictor variables people aged over 50 years and high school educated is explained between 10,2 and 14,5 % variation in using this sport service. For fitness there were separated just one model of prediction which includes predictor of the government sector and defines between 18,0 and 30,3% variation in using this sport service. IN the model of prediction (just one Is separated for this criteria )the using of other sport services is made by the predictor variable of people aged from 31-50 years which together with the constant value can explain between 9,7 and 17,2% variation in using other sport services.

For all separated models of prediction high quadrates are statistically important it as it can be seen from the upper table. All models for all criteria or sport activity are statistically important on levels smaller than 1%.The exception is model 1 for criteria basketball which is statistically important on level small than 5%.These results show that the separated models of prediction better prognoses the outcome of consuming some (upper listed) sport activities compared to base line predictions. Just for the variables of not using any of the sport activities (which were listed) hasn't got a important model of prediction, probably because of the fact that this variable isn't in and important correlation with any of the independent predictor variables. Models of prediction of using different sport products (services ), and based on the values of some predictor variables connected to social economical characteristics and segment of sport market are being showed in table 4.

**Table 2.** The values of quadrated multiple pseudocorelational coefficients for some models of prediction of using some sport products(services)

Dependent variable (criteria)	Model	-2 Log likelihood	Coxs and Snellovs R <sup>2</sup>	Nagelkerkes R <sup>2</sup>
Soccer	1	111,416	0,134	0,179
	2	106,613	0,179	0,239
Basketball	1	102,747	0,059	0,084
	2	98,564	0,102	0,145
Fitness	1	63,260	0,180	0,303
Not included in any sport activitie	0	-	-	-
Other recreation	1	65,165	0,097	0,172

**Tabel 3.** Omnibus test of importality of the whole model is showed in table 3.

Criteria	Step	Model	Hi-quadrat	Level of freedom	p
Soccer	1	Step	12,950	1	0,000 **
		Blok	12,950	1	0,000 **
		Model	12,950	1	0,000 **
	2	Step	4,803	1	0,028 *
		Blok	17,753	2	0,000 **
		Model	17,753	2	0,000 **
Basketball	1	Step	5,461	1	0,019 *
		Blok	5,461	1	0,019 *
		Model	5,461	1	0,019 *
	2	Step	4,183	1	0,041 *
		Blok	9,644	2	0,008 **
		Model	9,644	2	0,008 **
Fitness	1	Step	17,841	1	0,000 **
		Blok	17,841	1	0,000 **
		Model	17,841	1	0,000 **
Not included in any sport activitie	1	Step	-	-	-
		Blok	-	-	-
		Model	-	-	-
Other kind of recreation	1	Step	9,167	1	0,002 **
		Blok	9,167	1	0,002 **
		Model	9,167	1	0,002 **

\*\* Hi-quadrat is statistically important on level smaller than 1%.

**Tabel 4.**

Criteria	Step (Model)	Predicators	B	Cst. Mistake	Wald	Level of freedom	Level of importality	Exp(B)
Soccer	1	Age 18 to 30 y.	1,580	0,456	12,010	1	0,001 **	4,857
		Constant Value	-0,693	0,327	4,484	1	0,034 *	0,500
	2	Age 18 to 30 y.	1,397	0,471	8,782	1	0,003 **	4,043
		Monthly income	-1,028	0,472	4,742	1	0,029 *	0,358
Basketball	1	High-school educated	1,310	0,559	5,486	1	0,019 *	3,706
		Constant Value	-1,192	0,277	18,534	1	0,000 **	0,304
	2	Age over 50 y.	1,693	0,824	4,221	1	0,040 *	5,436
		High school educated	1,523	0,576	6,990	1	0,008 **	4,587
		Constant Value	-1,405	0,310	20,618	1	0,000 **	0,245
Fitness	1	Gov. Sector	2,614	0,702	13,863	1	0,000 **	13,647
		Constant Value	-2,962	0,592	25,023	1	0,000 **	0,052
Not included in sport activities	0	Constant Value	-2,833	0,460	37,906	1	0,000	0,059
Other kind of recreation	1	Age 31 to 50.y.	1,936	0,702	7,612	1	0,006 **	6,933
		Constant Value	-2,853	0,594	23,081	1	0,000 **	0,058

\* Walds statistic is important in a leve less than 5%

\*\* Walds statistic is important in a level less than 1%

The first prediction model related to football, has a significant predictor, age 18 to 30, which regression coefficient is positive and important at the level less than 1% (Wald-statistic is important at this level and represents the B-coefficient divided by standard error). On average, respondents who belong to this age group have 4.857 (see the Exp(B)) chance to be involved in this sport activity compared to those respondents who do not belong to this age. In the second prediction model of using services for futsal, two predictors are included: age group 18-30 and monthly salary. The first predictor in model 2 has a regression coefficient that is positive and important at the level of less than 1%, and the other predictor has a negative regression coefficient, which is important at a level less than 5%. On average, if the respondent belongs to the category aged between 18 and 30, he has a 4.043 higher chance of being involved in football. On the other hand, respondents with incomes higher than 818.89 KM, have 0.358 times smaller chance to be involved in this sport activity.

When it comes to basketball, "college degree" is included in model 1, which regression coefficient is positive and statistically important at a level less than 5%. On average, respondents with university education are 3.706 times more likely to be involved in basketball as compared to other subjects. In model 2, predictions of using basketball as sport service, two predictors are highlighted: "age group over 50", whose regression coefficient B is important at level less than 5% and positive, and "college degree" whose regression model is positive and statistically important at a level less than 1%. On average, respondents over the age of 50 are 5.436 times more likely to be involved in basketball as compared to other subjects, and respondents with college degree, chances are 4.587 times larger. Interestingly, "college degree", which negatively and significantly correlates with the criteria variable "basketball", is not isolated in any of the models. This is probably because there is high collinearity (correlation underlying the collinearity) with other predictors. Alternatively, if you look at the correlation in the first table, age over 50 is not significantly correlated with the variable "using sport service basketball", but still has an important regression coefficient identified in model 2. This is a classic example of a phenomenon, called suppressor-variable. Suppressor-variables are those variables that are associated with the criteria, but have an important correlation with other predictors or predictor in prediction model, and that, in these combinations, can substantially contribute to the prediction power of models. It can be said, that the age group over 50 years is a suppressor-variable. For fitness service, on model is isolated, that includes the predictor-variable "Government sector", whose regression coefficient is positive and important at a level less than 1%. On average, respondents who work in the governmental sector, are 13.647 times more chance to be involved in fitness activity. For the criteria-variable, also only one prediction model is isolated, which includes predictor-variable "age between 31-50 years", whose regression coefficient is positive and statistically important at a level less than 1%. On average, respondents in this age have a 6.933 times higher chance of being involved in some (of own choice) sports. From other forms of recreation, respondents answered mostly that they are running, swimming or playing tennis. Previous researches in EU and the U.S. show an increasing popularity of so-called outdoor recreational sport activities (running, walking, cycling, etc.), which are mainly individual sports (Bartolucci, M., 1998., Bartolucci M. Skoric, S., 2008.).

Our results show that one part of our interview participants also in that kind of recreation, but the frequency is not as big as in other countries. Of course our investigation was focused on the offer of sport services in Kanton Sarajevo, which is very homogenous and

from the individual kinds of recreation offers just fitness. Except that our sample didn't include women, and researchers showed that women are dominating in certain kind of recreation (Australian Bureau of Statistics 2007). Taken by the fact that the subject of our investigation of analysis of this sport market from the perspective of a sport organization which is on the sport market offers sport products/services in Kanton Sarajevo? Then we can look at the work (Masala, A., 2002.), who came to defect in his research that the service offered from the position of sports organization shows "a simple integrated sport product/complimented business sport product. That is a sport product organization in sports which is made by a connection of a sport product and some simple service and it has a program of renting sport equipment requirement, sport fields, sport spaces, sport equipment treating, administrative services, catering services, and lottery". Farral and shields (2002) made a research on the sample of N=1550 interviews who live all and N=4917 interviews who live in multimember families. The authors analyzed models of prediction of using over 80 different kinds of sport activity, based on some social demographic marks and characteristics. Using special regression analysis, it has been shown that there is a bigger likelihood of using all sport activities connected to predictor's variables with partial employments and location related to college education male sector and in total monthly incomes.

On the other hand women health problems and marriage status are related to the less possibility of using all the sport services. The research of Farral and shields was made on a much bigger sample which included female interviews what made the results different.

## Conclusion

Conclusions regarding this research derive from the results obtained in this work. A positive correlation between demographic indicators and their impact on the representation and positioning of sport products/sport and recreation services was shown in the sport market of Canton Sarajevo. All critical variables entered in at least one prediction model. Based on selected models, we can also talk about 4 segments of the target group. The segment "aged between 18 and 30 years with a monthly salary of less than 818.89 KM", which tends to use sport services for futsal. The segment "aged over 50 years and Associate degree", tend to use sport services for basketball.

The segment "government sector", which tends to use sport services for fitness and segment "age 30-50", which tends to use some other form of recreation. These results may have practical value for management of these sport organizations. For example, sport organizations that offer services for futsal can expect a greater chance that these services will be used by men aged 18-30 years, who have a monthly salary of less than 818.89 KM. Sport organization can adapt its marketing strategy for this segment of consumers.

Based on the above, we can conclude that the presence and positioning of sport products/services on the market in Canton Sarajevo are determined by the socio-economic indicators (age, education, employment and monthly salary) and based on these predictor, it is possible to create a profitable offer for sport services on the market. The process of research and segmentation of the sport market is the first step to create a sport-recreation offer and it's the key to achieve quality in work of organizations that offer sport services (Mašala, A., 2002.) on the sport market in Canton Sarajevo.

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Submitted: April, 30. 2012.

Accepted: May, 26. 2012.

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