

ANALYSIS OF FACTORS OF A MARKET WHICH AFFECT USAGE OF BASIC COMPLEMENTARY SPORT PRODUCTS THROUGH APPLIANCE OF FUNCTION OF RESEARCH OF A MARKET

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Abstract

Appliance of function of marketing research include connecting consumers, clients and the public to the person in charge of marketing through information which is used for identification of marketing opportunities of successful sale and which is directly connected to purchasing power of consumers. The aim of this research is related to assessment of market potential of basic complementary sport product (sport and recreation) on the public market from the aspect of socio- demographic motivational characteristics and the frequency and the way of using sport products as well as geographical distance of sport facilities. Analysis were conducted on stratification sample subjects (n=450) of which (n=99) are women and (n=351) are men. Analysis shows that basic complementary sport product (sport and recreation) are more frequently used by men, younger people, and single people and less by women, older people and married people. Research results which referred to the motivation of subjects in participating in sport activities show that there are two key motifs for subjects' participating in sport activities and those are: Image and Profession. It can be concluded that the subjects whose motifs are Image or Profession participate in sport activities and consume these non-materialistic sport products more than others.

Keywords: **socio-demographic characteristics, motivation, accessibility of sport facilities.**

Introduction

Significant potential of sport market in consuming basic complementary sport product (sport and recreation) is primary based on socio- demographic characteristics as well as geographic distance of sport objects and motivational characteristics of the public (Mašala , 2003). These statements are confirmed by authors (Beech & Chadwick, 2010) who emphasise that the characteristics which affect consumer's choice of consuming certain sports products are : age, gender, social status, education, interests and family status. These demographic characteristics and demographic factors can have crucial impact on consumer's behaviour because these selected groups of consumers are psychologically identified to the certain sport product.

The successful appliance of function of research is unimaginable without well educated employees who possess different specialities and who collaborate with each other especially because of accelerating growth of informational technologies. Therefore it is very important that these employees possess knowledge about: empirical connection

of market, characteristics of the products, channels of distribution, competition, methods of research (Malacko & Rađo, 2005). And because of this managers use different strategies to motivate their employees. Practice has shown that the combination of well-known strategies is the best in the process of work motivation and the dominant role has the strategy which is the most adequate to the current situation of organisation (Sadžak, Rađo, & Sadžak, 2015; Malacko & Rađo, 2006).

Making good strategic decisions depends on well educated sport and management team .That team is able to identify precisely desired group of consumers and to provide information support to the managers of a certain products or services (Bartoluci & Škorić, 2009 ; Mašala et al., 2013).

An important role in analysis of factors which influence the consummation of certain sport products has socio-economic environment such as purchasing power of the consumers, level of development of sport in different geographic areas mainly depends on economic strength

of a certain area rather than age and urbanisation of the population of that area (Andreff, 2001; Redžepagić, 2013). In order to recognize the importance of the mentioned influences on objective and successful marketing conception of the market and business, Drucker states that it is necessary to create scientifically based market (Drucker, 2001).

Motivational element is important factor which is included in analysis of market of sport products.

Maslow (2004) states and emphasises the importance of the influence of motivation on work activity, which is explained through the fulfilment of human needs. Motivacijski element je faktor koji se obavezno uzima u obzir pri analizi tržišta sportskih proizvoda. In order to understand a human being as an individual, Maslow states that analyzing of motivation should be directed to basic goals, desires and needs. Following this thought Maslow insists on the statement that there are certain stable structures of basic needs that are universal. These reasons point to classification of the basic categories of human needs and desires through a scale and in a following order: existential needs, safety, social needs, need for appreciation and social status and need for self-initiation and activation. These statements are not unexpected since the theory of sport in its fundamental scientific areas and branches such economy, sport management, marketing and global leadership, which are developed as relatively young scientific disciplines, are unquestionably related to almost every social activities (Rađo & Sadžak, 2009).

The aim of this paper is based on assessment of market potential of basic complementary sport product (sport and recreation) on public market, from the aspect of socio-demographic and motivational characteristics, frequency and way of consummation of sport product, especially taking into consideration geographic accessibility of sport facilities.

Methods

Participants

Sample included 450 subjects of the general public. It included (n=99) women and (n=351) men. The average age of the sample subjects was 32,81 age. The average age of women was 31,58 age, while the average age of men was 33,16 age. The marriage status of sample subjects was 218 single and 232 married. Socio-economic status of the sample subjects was defined through their monthly incomes. 35 of sample subjects didn't have any incomes, and 75 of sample subjects had monthly incomes less than 500 KM, 223 of sample subjects had monthly incomes from 501 to 1000 KM; 90 of sample subjects had monthly incomes from 1001 to 1500 KM; 16 of sample subjects had monthly incomes from 1500 to 2000 KM and 7 of sample subjects had monthly incomes over 2000 KM.

Sample of variables

Sample variables consisted of 16 variables. Variables of the research are divided on dependent and independent variables or predictors. Dependent or criteria variables are: subject's frequency in participating in sport activities and time which sample subjects spend on sport activities. There are three groups of variables of independent or predictor variables. The first group are socio-demographic variables and those are: age, gender, marriage status. The second group of predictors are motivational factors and those are: fitness (with means 0- not stated as a motive of participating in sport activity and means 1- stated as a motive of participating in sport activity) (2) Image (with means 0- not stated as a motive of engaging in sport activity and means 1- stated as a motive of engaging in sport activity) (3) Pleasure with means 0- not stated as a motive of engaging in sport activity and means 1- stated as a motive of engaging in sport activity) (4) Profession (with means 0- not stated as a motive for engaging in sport activity and means 1- stated as a motive of engaging in sport activity), (5) Social activities (with means 0- not stated as a motive of engaging in sport activity and means 1- stated as a motive of engaging in sport activity) and (6) Other with means 0- not stated as a motive of engaging in sport activity and means 1- stated as a motive of engaging in sport activity). The third predictor refers to number and distance of sport facilities and consists of the following variables: ; (1) number of sports facilities (binary variable with means 0 which notes that there are or aren't enough sport facilities in the area) (2) distance between sport facilities and place of residence. Distance under 1000 m (binary variable with means 0 which notes that sport facility is not on described distance and mean 1 which notes that the sport facilities are on the described distance from the place of residence) (3) distance of sport facilities from place of residence from 1000 to 2000 m (binary variable with means 0 which notes that sport facilities are not on described distance and mean 1 which notes that the sport facilities are on the described distance from the place of residence) and (4) distance of sport facilities from place of residence over 2000m (binary variable with means 0 which notes that sport facility is not on described distance and mean 1 which shows that the sport facilities are on the described distance from the place of residence).

Instruments for data acquisition

An instrument of this research was a survey created by the model of Lekert and Tersten's scale from 1-3 and 1-7 degrees (Fajgelj, 2004, 2005). Creating a survey was specially done for this paper and the pattern used was a model from a textbook Marketing research (Tihi, 1995). A survey is consisted of 23 questions. Only data which refer to general socio-demographic data related to age and gender, municipality, monthly incomes, profession and marriage status are used in analysis.

Statistical analysis

Methods of data processing are based on statistical process of Correlation analysis and Linear multiple regression analysis with step-wise method which was conducted based on statistical package SPSS 12.0 for Windows.

Results

The first indicator - Frequency of subject's engagement in sport activities which included connection of independent variables of motivational and socio-demographic characteristics of a subject and accessibility, distance and number of sport facilities to the mentioned criteria variable.

Table 1. Correlation of socio-demographic characteristics, number and geographic distance of sport facilities from subject's place of residence in relation to frequency of subject's engagement in sport activities

Set	Predictor	correlation coefficient	Level of significance p
Socio-demographic characteristics	gender	-0.188	<0.001
	Age	-0.320	<0.001
	Marriage status	-0.189	<0.001
Motivational characteristics	Fitness	0.077	>0.05
	Image	0.119	<0.05
	Pleasure	0.061	>0.05
	Profession	0.320	<0.001
	Social activities	0.029	>0.05
	Other	-0.410	<0.001
	Number and accessibility of sport facilities in area of place of residence	BSO	0.004
Distance to 1000 m		-0.085	>0.05
Distance from 1000 to 2000 m		-0.016	>0.05
Distance over 2000 m		0.108	<0.05

*Correlation is statistically significant on a level lower than 5%

** Correlation is statistically significant on a level lower than 1%

Table 1. shows that significant number of predictors is significantly connected to active engagement in sport activities. Individuals with motifs Image or Profession are more involved in sport activities.

It is very interesting that the result of analysis which points to the fact that distance of sport facilities over two kilometres is significantly related to the higher frequency of attendance.

The second indicator – Time which sample subjects spend on sport activities. Correlation and regression analysis with step-wise method show the correlation between independent variables of motivational and socio-demographic characteristics, accessibility, distance, and number of sport facilities to the mentioned criteria variable.

Table 2. Correlation of socio-demographic characteristic, number, and geographic distance of sports facilities from the place of residence, to the time subject spends on sport activities

Set	Predictor	Correlation coefficient	Level of significance p
Socio-demographic characteristics	Gender	-0.230	<0.001
	Age	-0.250	<0.001
	Marriage status	-0.175	<0.001
Motivational characteristics	Fitness	-0.003	0.952
	Image	0.118	<0.05
	Pleasure	0.060	>0.05
	Profession	0.355	<0.001
	Social activities	-0.003	>0.05
	Other	-0.295	<0.001
	Number and accessibility of sport facilities in the area of place residence	BSO	-0.022
Distance to 1000 m		-0.173	<0.001
Distance from 1000 to 2000 m		0.066	>0.05
Distance over 2000 m		0.120	<0.05

*Correlation is statistically significant on a level lower than 5%

** Correlation is statistically significant on a level lower than 1%

Results of table 2 show that significant number of predictors statistically correlates to the time spent on sport activities. It is noted that variables, gender, age, marriage status significantly (in a negative way) correlate to the time spent on sports activities. Women, married people and older people spend less time practicing sport activities while, men, single people and younger people spend more time practicing sport activities.

Variables of motivational characteristics like Image and Profession and Other reasons for doing sports are in statistically significant correlation to the Time spent on sport activities. Other as a motif for engaging in sport activities is negatively correlated to the Time spent on sport activities. Cluster of variables of number and distance of sport facilities shows that there are only two variables significantly related to the Time spent on sport activities. The first variable (Distance up to 1km) is correlated in a negative way, which indicates that subjects who have sport facilities within 1km range spend less time practicing sport activities. The second variable is the Distance over 2km and it correlates positively with the time spent practicing sport activities.

Table 3. Demonstration of coefficient mean of multiple correlations and multiple determinations in examining model of predication of Frequency in engaging in sport activities

Model	R	R ²	Determination coefficient	Std. Error of parameter
1	0.411	0.169	0.167	1.469
2	0.499	0.249	0.246	1.398
3	0.545	0.297	0.292	1.355
4	0.578	0.334	0.328	1.320
5	0.586	0.343	0.335	1.312

Table 4. Means and levels of significance of regression coefficients of certain predictors in model of prediction of frequency in engaging in sport activities

Model	Predictor	Non-standard coefficient		Standard beta-coefficient	t-test	p
		B	St. error B			
1	Constant	4.26	0.07	-	56.40	<0.001
	Reason-Other	-1.81	0.19	-0.41	-9.53	<0.001
2	Constant	4.14	0.07	-	56.22	<0.001
	Reason- Other	-1.69	0.18	-0.38	-9.34	<0.001
	Professional	2.27	0.32	0.28	6.90	<0.001
3	Constant	5.49	0.25	-	21.42	<0.001
	Reason- Other	-1.51	0.17	-0.34	-8.46	<0.001
	Professional	2.10	0.32	0.26	6.55	<0.001
	Age	-0.04	0.00	-0.22	-5.46	<0.001
4	Constant	5.75	0.25	-	22.54	<0.001
	Reason-Other	-1.41	0.17	-0.32	-8.03	<0.001
	Professional	2.22	0.31	0.27	7.09	<0.001
	Age	-0.04	0.00	-0.24	-6.04	<0.001
	Gender	-0.76	0.15	-0.19	-4.99	<0.001
5	Constant	5.68	0.25	-	22.31	<0.001
	Reason- Other	-1.36	0.17	-0.31	-7.76	<0.001
	Professional	2.27	0.31	0.28	7.28	<0.001
	Age	-0.04	0.00	-0.23	-5.99	<0.001
	Gender	-0.78	0.15	-0.20	-5.13	<0.001
	Image	0.66	0.27	0.09	2.45	<0.05

¹ANOVA, which is used in regression analysis refers to analysis of regression variance and error variance F-scale is a scale of regression variance and error variance and both variances are included in structure of coefficient of multiple correlation. So when we say that we are examining the significance of a model we are actually examining significance of coefficient of multiple correlation. This methodological procedure is used in all other cases in which regression analysis is used.

Results in table 3 show of coefficient of multiple correlations and multiple determinations. Predictor structure of the first model (around 16,7%) and the second model (24,6%) explain variations among subjects in terms of their frequency in engaging in sport activities. This percentage is increased in the third model to 29,2%, in fourth 32,5% and 33,5% in the fifth model. Variance analysis (ANOVA) shows that all models are statistically significant on a level lower than 1% (F=90,861 & p=0.000 for the first model, F=74,048 & p=0.000 for the second model, F=62,524 and p=0.000 for the third model, F=55,648 and p=0.000 for the fourth model and F=46,222 & p=0.000 for the fifth model).¹

The first predictor variable which is the base of structures of all models is the answer Other as motive of practicing or non-practicing sport activities. All models, in which structures is this independent variable, show negative regression coefficients which are statistically significant on a level lower than 1%. The common thing for all five models is that subjects that state variable Other as a reason for engaging in sport activities are less engaged in sport in relation to the subjects that do not state this variable. Second predictor variable which refers to the professional sport engagement is a part of model of prediction from 2 to 5. This predictor variable in all models shows positive regression coefficients which are statistically significant on levels lower than 1%. Subjects, who are engaged in sport as a profession, engage in sport activities for 2.273 units more frequently than the subjects who don't do sports as a profession. The third predictor variable is Age which is included in the third, fourth and fifth model of prediction. This variable, in all models, shows negative regression coefficients which are statistically significant on levels lower than 1%.

Third model of prediction shows that if subject is one year older frequency of sport activities is reduced and if the subject is one year younger frequency of sport activities is increased. The fourth and the fifth model show that if the subject is one year older frequency of sport activities is reduced.

The fourth predictor variable Gender is included in structure of fourth and the fifth model of prediction of frequency of engagement in sport activities. Its regression coefficient is negative and statistically significant on levels lower than 1% in both models. In both models of prediction male subjects are related to more frequent participation in sport activities. The fourth and the fifth model show that the male subjects participate in sport activities more frequently than the female subjects. The fifth predictor variable which refers to Image as a motive for participating in a sport activities is included in the fifth model of prediction of frequency of participation in sports activities. This variable shows positive regression coefficient which is statistically significant on a level lower than 5%. The fifth model of prediction shows that if the Image is the motive for participation in sports activities then the frequency of the participation in sport activities is more frequent in both men and women. The following method analyzes correlation between independent variables of motivational and socio-demographic characteristics, distance, accessibility of sport facilities and dependent variables Time spent on sport activities (table 2). Cluster of variables which refer to socio-demographic characteristics show that all three variables: Gender, Age, and Marriage status significantly correlate in a negative way

with time spent on sport activities. Females, married and older subjects spend less time practicing sport activities, while males, single and younger subjects spend more time practicing sport activities. Cluster of variables of motivational characteristic of subjects participating in sport activities show that variables which refer to Image, Profession and Other reasons, have statistically significant correlation to the time spent on sport activities. The cluster of Variables of number and distance of sport facilities shows that only two variables are significantly correlated to the time spent on sport activities and those are: the variable Distance up to 1km and variable Distance over 2 km. Results show that sample subjects who have sport facilities 2 km away from their homes spend more time participating in sport activities than other subjects.

Table 5 shows that coefficients of multiple correlation and multiple determination of predictor structures of the first model includes about 12,6% of variation among subjects in time spent on sport activities. The second model includes 19,6 and the third around 24,9% variations among subjects in time spent on sport activities. This percentage of variations is 28,3% in the forth model and 29,9% in the fifth model of prediction.

ANOVA analysis shows that all mentioned models of prediction are on statistically significant level lower than 1%. (F=64.451 & p=0.000 for the first model, F=54,523 & p=0.000 for the second model, F=49,052 & p=0.000 for the third model, F=43.856 & p=0.000 for the fourth model & F=37.756 & p=0.000 for the fifth model). That means that all isolated models of prediction perform better

Table 5. Demonstration of means of coefficient of multiple correlation and multiple determination in examining models of prediction of time spent on sport activities

Model	R	R ²	Coefficient of determination	Std. Error of parameter
1	0.355	0.126	0.124	1.057
2	0.443	0.196	0.193	1.014
3	0.499	0.249	0.243	0.982
4	0.532	0.283	0.277	0.960
5	0.547	0.299	0.291	0.951

predictions of means of time spent on sport activities in relation to the generated predictions.

The first predictor variable which refers to Profession as a reason for participating in sport activities is included in structure of five isolated models of prediction of time spent on sport activities. Regression coefficient of this predictor is positive and statistically significant on a level lower than 1% in all models of prediction. Results of all five models show that Profession in sport has significantly increased effects of time spent on sport activities in relation to other subjects. The second predictor variable; Other, which is included in structure of second, third, fourth, and fifth model of has negative regression coefficient and statistically sig-

nificant on level lower than 1%. Subjects whose answer that their motive of their participation in sport activities is Other time spent in sport activities is less in relation to the subjects who don't have this motive. The third predictor variable Gender is included in structure of model 3, 4 and 5. Regression coefficient of this predictor variable in each model is negative and statistically significant on level lower than 1%. If the subject is female then one spends less time on sport activities. The fourth predictor variable is Age which is included in structure of fourth and the fifth isolated model of prediction of time spent on sport activities. Both model of prediction regression coefficients of this independent variable are negative statistically significant

Table 6. Demonstration of means and level of significance of regression of coefficient of certain predictors in model of prediction of time spent on sport activities

Model	Predictors	Non-standard coefficient		Standard beta-coefficient	t-test	p
		B	St. Error B			
1	Constant	2.01	0.05	-	39.48	<0.001
	Professional	1.98	0.24	0.35	8.02	<0.001
2	Constant	2.14	0.05	-	40.12	<0.001
	Professional	1.85	0.23	0.33	7.75	<0.001
	Other	-0.82	0.13	-0.26	-6.25	<0.001
3	Constant	2.26	0.05	-	40.36	<0.001
	Professional	1.96	0.23	0.35	8.46	<0.001
	Other	-0.75	0.12	-0.24	-5.84	<0.001
	Gender	-0.62	0.11	-0.23	-5.55	<0.001
4	Constant	3.09	0.18	-	16.65	<0.001
	Professional	1.86	0.22	0.33	8.19	<0.001
	Other	-0.63	0.12	-0.20	-4.96	<0.001
	Gender	-0.67	0.11	-0.24	-6.07	<0.001
	Age	-0.02	0.00	-0.19	-4.63	<0.001
5	Constant	3.15	0.18	-	17.07	<0.001
	Professional	1.86	0.22	0.33	8.26	<0.001
	Other	-0.61	0.12	-0.19	-4.82	<0.001
	Gender	-0.66	0.11	-0.24	-6.02	<0.001
	Age	-0.02	0.00	-0.18	-4.43	<0.001
	Distance to 1000 m	-0.28	0.09	-0.12	-3.14	<0.001

on a level lower than 1% The fourth model of prediction shows that if a person is one year older time spent on sport activities is reduced. It's the same case with the fifth model. The fifth predictor variable refers to distance of sport facilities less than 1000 m and they spend less time on sport activities.

Discussion

Analysis results confirmed that consuming basic complementary sport products (sport and recreation) influenced by socio-demographic characteristics of general public, distance and number of sport facilities and motivational characteristics of the subjects. results are confirmed based on two key indicators of high statistical significance. (indicators : frequency of participation in sport activities and time spent on sport activities)

The first part of analysis refers to frequency of participation in sport activities and time spent on sport activities which indicate that men, young people, single people participate more frequently in sport activities in relation to women, older people and married people. Analysis show that females, married and older subjects spend less time practicing sport activities, while males, single and young subjects spend more time practicing sport activities. If subjects state the Image or Profession as their motifs for practicing sport activities then they spend more time practicing sport activities in relation to the other subjects. Subjects whose answer is that their motive of their participation in sport activities is

Other participate less in sport activities than other subjects. Also if analyze the distance of sport facilities we'll find that subjects who have sport facilities within 1km range spend less time practicing sport activities while subjects who have sport facilities 2 km away from their homes spend more time participating in sport activities. Reasons for this are: motivation, culture, or infrastructure factors which creates need for consummation of sport and recreation.

Conclusion

In the area of scientific and objectively justified marketing analysis it is discovered that there are several groups of potential consumers which are related to: market of non-users (women, older people and married people), market of users of products and services of competition (subjects who have sport facilities up to 1km located from their homes) market of real users (men, younger people and single people. Also two main motifs are determined for using basic complementary product and those are the individuals with motif Image and Looks or individuals who are professional athletes. This research confirms appliance of function of marketing and the main goal of the research which objectivise market potential of basic complementary product (sport and recreation) on the market, from the aspect of socio-demographic, motivational characteristics, frequency of consummation of sports products and geographical accessibility of the sport facilities is gained.

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