MODEL OF ENTREPRENEURIAL INTENTIONS AMONG STUDENTS IN BOSNIA AND HERZEGOVINA

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Abstract: The purpose of this paper is to examine entrepreneurial intentions among business students in state universities in Bosnia and Herzegovina. Theoretic base for The Model of Entrepreneurial Intentions in this research is Theory of planned behavior, developed by Ajzen (1991.). TPB explains that Attitude towards behaviour, Perceived Social Norms and Perceived Behavioral Control are three motivational factors that constitute the construct which explains entrepreneurial intention. Entrepreneurial intentions are considered to be the single most influencing predictor for performing entrepreneurial behaviour. Collected data were analyzed in SPSS 19.0 statistical program, using standard descriptives for general information about the demographic characteristics of the sample. After performing Factor analysis, four different factors emerged which represented four main constructs od the model. Cronbach Alpha was 0.8 and showed adequate reliability in the questionnaire. Parametric statistics was used in the analysis, because Kolmogorov-Smirnow test was not significant (p value was grater than 0.05)We used correlation analysis and regression analysis to confirm the hypothesis.

Keywords: *entrepreneurial intentions, students, Theory of planned behaviour*

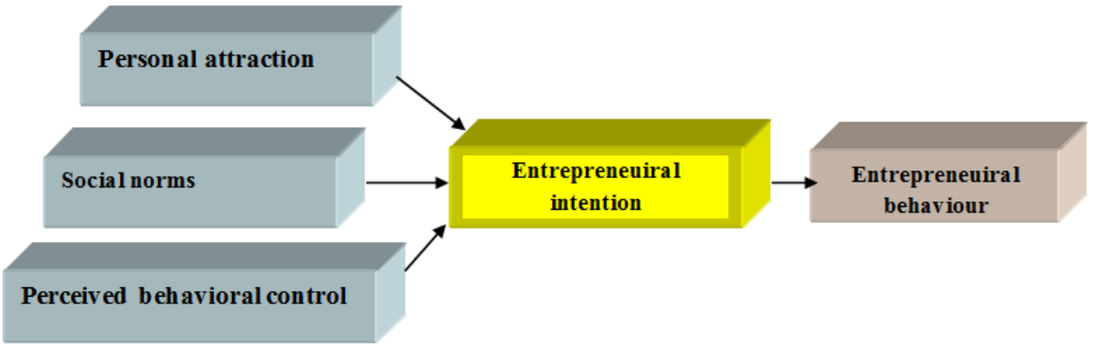
1. INTRODUCTION

The importance of entrepreneurship to society has been identified and discussed since at least the fifteenth century (Schumpeter, 1912), and that discussion remains topical (Maresch et al., 2015; Kirchhoff et al., 2013; Grichnik and Harms, 2007). Process of entrepreneurship is a very complex activity, and for bringing more lights on it, it requires a multidisciplinary aproach. Who is an entrepreneur, why is he/she different from the rest of the population? What are the motives for becomming entrepreneur? These are some of the question which always cause debates. Organizational emergence is usually considered as a key outcome of entrepreneurship (Shirokova et al, 2015; Aldrich, 1999; Gartner, 1985; Katz & Gartner, 1988; Shane & Delmar, 2004).

Entrepreneurial activity is intentional, resulting from motivation and cognition (Frese, 2009; Kautonen, Van Gelderen, & Tornikoski, 2013; Kolvereid & Isaksen, 2006; Krueger, 2005). Starting point for every racional and important action is intention. Social psychology scholars define intentions as cognitive states immediately prior to the decision to act (Theory of Planned Behavior: Ajzen, 1991; Theory of reasoned action: Ajzen & Fishbein, 1980; Fishbein & Ajzen, 1975). Entrereneurial intentions are the single most important predictor of one's later entrepreneurial behaviour. But not all intentions

are transformed in the planned behaviuor. But this obvious gap between intention to behave and behaviour will be part of another research.

Picture 1: Entrepreneurial intention model EIM



Entrepreneurial intention is defined as the conscious state of mind that precedes action and directs attention towards a goal, such as starting a new business (Linan et al., 2016; Fayolle et al., 2014). Several models (Shapero & Sokol, 1982., Moore, 1986.; Scott & Twomey, 1988.; Herron & Sapienza, 1992.; Naffzinger et al., 1994.; Krueger i Brazeal, 1994.; Baum et al., 2001.; Bandura, 2006.) have been used to explain EI – although these have not been as influential as the Ajzen's (1991) Theory of Planned Behaviour (Linan et al., 2016; Kautonen et al., 2013; Griffiths et al., 2009; Van Gelderen et al., 2008). Unlike other EI models, the TPB offers a coherent and generally applicable and replicable theoretical framework. TPB recognizes three key elements which directly influences on intention to become an entrepreneur.

The attitude towards the behaviour or personal attraction PA refers to the attractiveness of the proposed behaviour or degree to which the individual holds a positive or negative personal valuation about being an entrepreneur (Ajzen, 1991, 2002; Kolvereid 1996). Subjective norms or social norms measure the perceived social pressure from family, friends or significant others (Ajzen, 1991) to perform the entrepreneurial behaviour. It refers to the perception that 'reference people' may or may not approve of the decision to become an entrepreneur (Ajzen 2001). The third motivational factor is Perceived behavioral control PBC and it describes the perceived easiness or difficulty of becoming an entrepreneur (Ajzen 1991). Some researchers have considered this concept confusing for interpretation and they used self-efficacy instead of PBC (Moriano et al., 2012; van Gelderen et al., 2008., Kvereid & Isaksen, 2007.; Krueger et al., 2000.), but Ajzen (2002) specifies that it is a wider construct, since it encompasses self-efficacy and perceived controllability of the behaviour.

Entrepreneurship becomes more and more attractive for people who are about to make their first career choice, as this perspective allows participation in the labor market while keeping personal freedom (Shirokova et al, 2015; Martinez, Mora, & Vila, 2007). Special form of a entrepreneurship is student entrepreneurship, which has the early start-up activities during the studies. According to latest published GEM Report for Bosnia and Herzegovina (2012) relatively small number of young people started their own business (5.9%), and between them there are more male entrepreneur. Students' involvement in entrepreneurial activity depends on their career plans and attitude toward self-employment, which are contingent on various factors (Shirokova et al, 2015).

In this research we are going to examine intentions among students to start and run thair own bussines. What are the driving factor(s) who pull/push students in entrepreneurship? According to Theory of planned behaviour three main hypothesis are formed:

H1: Personal attraction has positive influence on Entrepreneurial intentions.

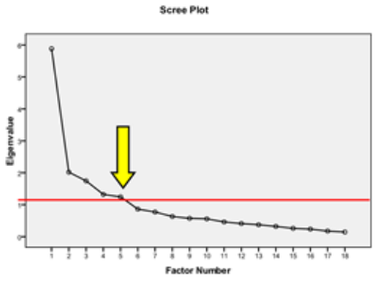
H2: Social norms have positive influence on Entrepreneurial intentions.

H3: Perceived behavioral control has positive influence on Entrepreneurial intentions.

This paper will follow the IMRaD structure. After Introduction, in the second part (Methods) the answer to when, where, and how was the study done will be given. Results will present what did the study find, and was the tested hypothesis true. And finally in the last section it will be discussed what might the answer imply and why does it matter, how does it fit in with what other researchers have found and what are the perspectives for future research.

2. METHODS & RESULTS

In this research, The Model of Entrepreneurial Intentions (MEI), based on Theory of planned behaviour was tested on the sample of business students from School of Economics and Business Sarajevo. The measurement point was in the school year 2015./16., when 91 students (freshmen) who passed Entrepreneurship course were asked to participate in a survey. Questionnare used in this research was developed by Autio et al. 2001. Students were asked to give answeres on 20 questions (which were measuring PA, SN, PBC and EI). Scale used in this questionnaire was five point Likert type. Collected data were analyzed in SPSS 17.0 statistical program. After performing Factor analysis (KMO and Bartlett's Test were significant), five different factors emerged.



On the screeplot and in the table we can see that factor 1 explains **32.67%** of variance.

Factors 1-5 explain together **67.86%** of variance.

Fact	Initial Eigenvalues Total	% of Var	Cum %	Rotation Sums of Squared Loadings Total
1	5.883	**32.686**	32.686	3.882
2	2.020	11.220	43.906	2.358
3	1.746	9.702	53.608	2.884
4	1.323	7.352	60.960	2.694
5	1.247	6.925	67.885	3.000
6	.863	4.792	72.678	
7	.772	4.287	76.964	
8	.632	3.509	80.473	
9	.574	3.188	83.661	
10	.557	3.097	86.758	
11	.461	2.563	89.321	
12	.410	2.279	91.599	
13	.374	2.077	93.676	
14	.321	1.783	95.459	
15	.260	1.445	96.904	
16	.237	1.315	98.219	
17	.175	.975	99.193	
18	.145	.807	100.000	

Extraction Method: Principal Axis Factoring

Extraction method used for this research was Principal axis factoring and oblique rotation.

Criterias for obtaining factors were: Keiser's rule(≤ 1) and point of inflection on screeplot.

Table 1: KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.	**0.758**
Bartlett's Test of Sphericity Approx. Chi-Square	646.495
df	153
Sig.	0.000

Three questions were problematic (after rotation they were in a wrong factor, they were not measuring what they were supose to), and they were dropped out. In the structure matrix we can see the final version of items, where rotation converged after 9 iterations (using Oblimin with Kaiser normalization). Factor 1 is representing the questions which measure the construct PBC. Factor 2 represents PA positive, Factor 3 SN, Factor 4 PA negative and finally Factor 5 represents construct EI.

Table 3: Structure Matrix

			Factor		
Questionnaire	**1**	**2**	**3**	**4**	**5**
Uspješan(na) sam u identifikovanju poslovnih mogućnosti.	**.752**	.346	-.305	.326	-.402
Posjedujem vještine i mogućnosti da uspijem kao preduzetnik/preduzetnica.	**.750**	.135	-.227	.124	-.292
Veoma dobro uočavam poslovne mogućnosti.	**.749**	.344	-.356	.361	-.351
Znam uočiti i neutralisati prepreke za ostvarenje svoje ideje.	**.699**	.279	-.440	.367	-.550
Siguran(a) sam da bih bila uspješna ukoliko bih pokrenuo(la) sopstveni biznis.	**.585**	.258	-.130	.524	-.265
Za mene je poželjna jedino karijera u velikoj firmi (rad u privatnom sektoru).	.216	**.799**	-.139	.014	-.196
Za mene je poželjna jedino karijera u javnom sektoru.	.210	**.755**	-.185	-.016	-.223
Na mom Fakultetu, traže se nove ideje za nove biznise.	.342	.253	**-.903**	.244	-.239
Na mom Fakultetu mogu se susresti ljudi koji imaju nove ideje za nove biznise.	.230	.093	**-.790**	.162	-.094
Poznajem mnogo ljudi koji su nakon završetka studija pokrenuli svoj sopstveni biznis.	.464	.405	**-.543**	.173	-.210
Postoji povoljna infrastruktura kao potpora pokretanju novih biznisa.	.322	.444	**-.469**	.155	-.297
Započeti sopstveni biznis meni zvuči atraktivno.	.222	-.045	-.107	**.746**	-.220
Preduzetnička karijera je poželjna opcija za mene.	.388	.137	-.359	**.724**	-.344
Prednost svog obrazovanja na najbolji način bih iskoristio(la), ukoliko bih pokrenu(la) sopstveni biznis.	.293	.109	-.251	**.679**	-.229
Započeti sopstveni biznis, sa pola radnog vremena, u narednih godinu dana	.416	.279	-.246	.071	**-.790**
Započeti sopstveni biznis, uz puno radno vrijeme, u narednih godinu dana	.317	.368	-.055	.386	**-.660**
Započeti sopstveni biznis, uz puno radno vrijeme, u narednih pet godina	.229	.139	-.057	.438	**-.656**
Započeti sopstveni biznis, sa pola radnog vremena, u narednih pet godina	.414	.221	-.354	.068	**-.512**

Extraction Method: Principal Axis Factoring.
Rotation Method: Oblimin with Kaiser Normalization.

a. Rotation converged in 9 iterations.

Standard descriptives for general information about the demographic characteristics of sample were done. In the sample 71.4% were female participantes and most of them (46.2) were 20-21 years old.

Table 5. Age

Dob	<20	20-21	22-23	24-25	>25
Percentage	34,1%	46,2%	7,7%	3,3%	6,6%
Frequency	31	42	7	3	6
M		2,00			
SD		1,09			

*M = aritmetička sredina; SD = standardna devijacija

Table 6. Sex

Spol studenata	Muški	Ženski
Percentage	25,3%	71,4%
Frequency	23	65

Five variables listed in the table down were computed relying on the results from dimension reduction technique. Questions which were measuring the same construct were computed. In the correlation and regression analysis these five variables will be used.

Tabela 7: Descriptive statistics for variables

Variable	N	min	max	M	SD	Skew	SE_S	Kurt	SE_K
Perceived behavioral control	87	11.00	25.00	20.02	3.35	-0.25	0.26	-0.65	0.51
Personal attraction negative	88	2.00	10.00	6.67	2.27	-0.54	0.26	-0.57	0.51
Social norms	89	6.00	20.00	14.75	3.56	-0.67	0.25	-0.39	0.51
Personal attraction positive	87	6.00	15.00	13.01	2.04	-1.22	0.26	1.32	0.51
Entrepreneurial intentions	88	4.00	20.00	13.56	3.91	-0.11	0.26	-0.56	0.51

* N = sample, M = mean, SD = standard deviation, Skew = skewnis-asimetry, SE_S = standardn error of skewnis, Kurt = kurtosis, SE_K = standard error of kurtosis.

For analyzing data parametric statistics was used (series of T-tests and ANOVA). After analyzing results of the samples, one statistically significant difference appeared. Male students have significantly higher entrepreneurial intentions than female group of students

Tabela 8: Difference in EI between male and female students

		M	SD	t	Df	p	Confidence interval 95%	
Entrepreneurial intentions	M	**14,09**	3,68	18.36	22	**0.00**	12.50	15.68
	F	**13,30**	4,10	26.20	62	**0.00**	12.37	14.42

(* M = mean, SD = standard deviation, t = T-test, Df = degrees of freedom, p = Sig. of t: if p isless or equal 0,05, difference is statisticaly significant).

In the reliability analysis we measured consistency of a questionnaire. Cronbach coefficient Alpha is 0.866 showed that it is reliable.

Table 4: Cronbach's Alpha(a)

Cronbach's Alpha(α)	(α) Based on Standardized Items	N of Items
0.866	0.868	18

We used correlation and regression to test the hypothesis 1, 2 and 3. Correlation analysis showed significant moderate and high correlation coefficients. Only correlation between PApos i PAneg was very week and not significant.

Table 9: Correlation matrix

		PBC	PA neg	PA pos	SN	EI
1	**Perceived behavioral control**	1				
2	**Personal attraction negative**	0.28**	1			
3	**Personal attraction positive**	0.47**	**0.042**	1		
4	**Social norms**	0.48**	0,33**	0.34**	1	
5	**Entrepreneurial intentions**	**0.53****	0.30**	0.36**	0.34**	1

**. Correlation is significant at the 0.01 level (2-tailed).

For the regression analysis it is important to underline that dependent variable is Entrepreneurial intentions EI, and four independent variables are Perceived behavioral control PBC, Personal attraction negative PAneg, Social norms SN, Personal attraction positive PApos. According to Ajzen's TPB these four predictors directly and positively influence dependent variable EI.

After running regression analysis on this sample of 91 student all four independent variables togather explain 32,0% of entrepreneurial intention variance. The method used in the analysis was Forced entry or Enter (all predictors were forced into model simultaneously). We inspected values of variance inflation factor VIF (it si very close to 1) and concluded that there is no multicolinearity (which we could have guessed after observing value of correlation coefficients). In the sense of statistical significance, only predictor PBC is statisticaly significant (p=0.001).

In the hierarchical model predictors are selected based on past work or from other research. Known predictors are entered in model fist in order of their importance in predicting outcome. In this case we respected the outcome of Factor analysis where factor 1 alone explained the most of variance (3,67%). This factor is represented by PBC.

Table 10: Model Summary[b] with coefficients[a]

Variable	B[a]	Beta (β)[a]	t	p	Model summary[b]	Confidence interval 95%		VIF
Constant	-2.11					-7.67	3.45	
PBC	0.45	0.387	3.32	0.001	R=565[a]	0.18	0.73	1.53
PAneg	0.28	0.163	1.62	0.110	**R^2=0.32**	-0.07	0.63	1.15
PApos SN	0.31	0.162	1.49	0.140	ΔF=9.04 ** SigF=0,00	-0.19	0.29	1.39
	0.05	0.042	0.37	0.709		0.10	0.73	1.33

a. Predictors: (Constant), Personal_attraction_positive, Personal_attraction_negative, Social_norms, Perceived_behavioral_control
b. Dependent Variable: Entrepreneurial_intentions

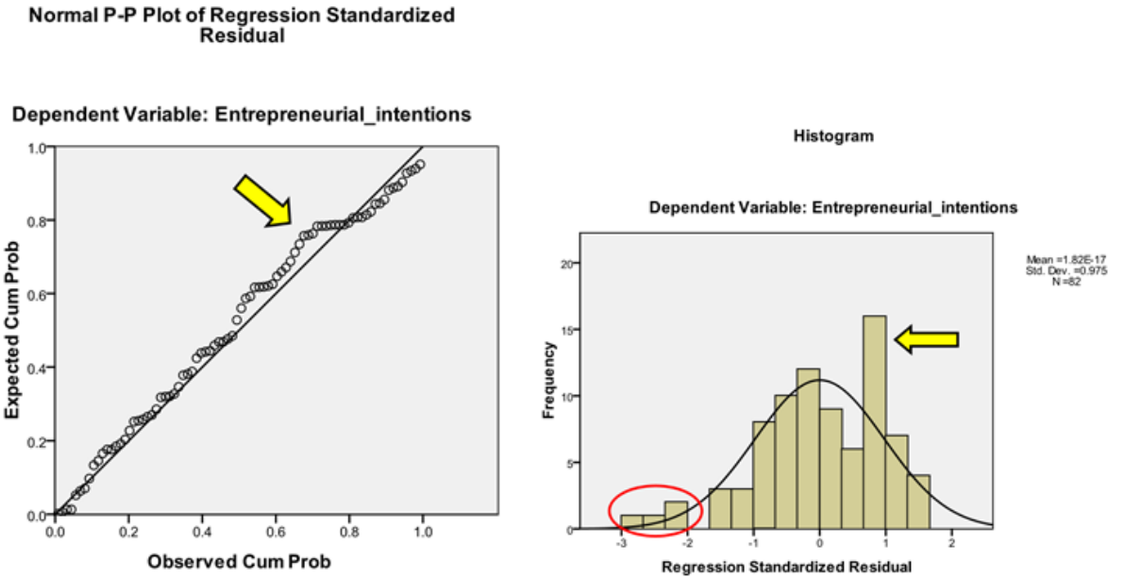
In the hierarchical model building first variable PBC explained 27.4% variance of EI, PApos explained additionally 2.3%, SN explained additionally 0.4%, PApos explained additionally 2%. Only PBC predictor was at satisticaly significant level (SigΔF=0.000) .

Table 11: Hierarchical model building

Model	Predictors	Beta (β)	t	p	Model summery
1	**Perceived behavioral control**	0.52	5.49	0.00	R^2 = 0.274
Research methods I					**ΔR^2=0.274**
					ΔF= 30.141
					Sig.ΔF=0.000
2	**Perceived behavioral control**	0.483	4.95	0.00	R^2 = 0.296
	Personal attraction negative	0.155	1.59	0.12	**ΔR^2=0.023**
					ΔF= 2.53
					SigΔF=0.12
3	**Perceived behavioral control**	0.454	4.18	0.00	R^2 = 0.300
	Personal attraction negative	0.141	1.40	0.16	**ΔR^2=0.004**
	Social norms	0.070	0.63	0.53	ΔF= 0.401
					SigΔF=0.53
					R = 0.320
					ΔR =0.020
					ΔF= 2.23
	Personal attraction positive	0.162	1.49	0.14	SigΔF=0.14
4	**Perceived behavioral control**	0.387	3.32	0.00	**Personal attraction negative** 0.163 1.62 0.11
	Social norms	0.042	0.37	0.71	

a. Predictors: (Constant), Perceived_behavioral_control
b. Predictors: (Constant), Perceived_behavioral_control, Personal_attraction_negative
c. Predictors: (Constant), Perceived_behavioral_control, Personal_attraction_negative, Social_norms

d. Predictors: (Constant), Perceived_behavioral_control, Personal_attraction_negative, Social_norms,
Personal_attraction_positive
e. Dependent Variable: Entrepreneurial_intentions



We use standardized reziduals (z-scores) which are residuals divided by an estimate of their standard deviation. We know that 95% z-scores should lie between -1.96 and +1.96 (assumption of normal distribution). Since there is no value grater than absolute 3.29, we conclude that there is no reason to worry about outliers. However on the normal P-P plot and on the histogram we can see some deviation marked with arrow, it is not perfectly normally distributed. Outliers outside three standars deviations were excluded.

Missing values were excluded listwise. In general, missing values are closely examined and no pattern or frequency arose. This is the example of missing completely at random. One observation was excluded becuse the student gave all 1s to all the questions (we believe that it was very malicious behaviour, but not true answers to given questions). The regression analysis in the sample generally supports Hypothesis 3. Students who have higher self-efficacy (PBC) have higher entrepreneurial intentions. Hypothesis 1 and 2 did not find any support in this research.

$$\hat{y} = 0.39x_1 + 0.16x_2 + 0.16x_3 + 0.04x_4 \text{ with standardized regression coefficients}$$

3. DISCUSSION

The research about entrepreneurial intentions among business students in SEBS pointed out few very important findings, which are coherent with other simillar studies. Perceived behavioral control (very close concept to self-efficacy) is a beliefe that a person is capable of starting and running a succesful business. This is the main predictor which influences formation of entrepreneurial intentions. This construct alone explains 27.4% of variance (of Entrepreneurial intentions) in this researh.

Social norms have very little influence on young people (in this sample), and it is explained with locus of control. Individuals who have high internal locus of control believe that they are responsable for outcomes and their life, they keep things

under control. In the other hand individuals with high external lokus of control believe that other people influences and direct their life. Entrepreneurs typically have high internal locus of control, and they do not wait for the approval from the others to star bussines. Social norms explain 0.4% of variance EI (this contribution was not statistically significant).

Personal attraction was divided in two categories (positive and negative aspects). This was done because Factor analysis did not put corresponding questions in one factor, but in two. There was an option to drop out two questions and in that case 4 factors would emerged. But, please note that this analysis was mostly done for the demonstration purpose (exam) and there is a strict rule that for this assignment we need at least 5 variables. However, statisticaly those two predictors PApos i PNneg explained respectively 2.3% and 2% of variance EI (this contribution was not statistically significant). This construct measured attitudes towords entrepreneurship and we can conslude that those attitudes do not impact highly enough on EI among students. This may be explained withe the fact that those are student freshmen and that they will develop stronger pro/contra attitudes towords entrepreneurship in the cours of their studies. Certainly intense education and practice will have positive effect on ther overall knowledge and attitudes.

Highest level of propensity to act, or highest level of entrepreneurial intentions is in general among last year students who are actively considering all career options because they will soon step out in the labour market. Gap between entrepreneurial intentions and behaviour (start-up activity) is than smallest. Therefor, simillar research should be undertaken among those students. The sample should include engeneering and other studies to have a fully representative sample.

In the course of analysis some other techniques might be used (ex. factor scores for later analysis). In the Factor analysis all the other methods were run, but the most logical and best results gave the ones we used (oblique). When it comes to normality PApos showed moderate asimetry (negative one). Even after transformation (reflection and log 10 or square root) normal distribution was not achieved. That is why variables were not transformed at all. Kolmogorow-Smirnow and Shapiro-Wilk test were significant for two variables. They are sensitive in general, so we relied on normal distribution observed on histogram.

And finally for more significance, we sholud enlarge the sample.

4. LITERATURE

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