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The role of university in influencing the entrepreneurial intention of university students

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Abstract

In this paper we identify the factors of university student entrepreneur's entrepreneurial motivations, and we check the nature of the relationship of these factors with university level entrepreneurship education characteristics. The 2016 data of the Global University Entrepreneurial Spirit Students' Survey was used for the tests in the four Visegrad countries: the Czech Republic, Hungary, Poland, and Slovakia. We define five factors of entrepreneurial motivation: Customer focus, Social mission, Collective/community goals, Individual goals and Competition/market focus. Entrepreneurship education characteristics are weakly correlated with some of these factors. The strongest relationship can be detected in case of Competition/market focus. Our findings suggest that university level entrepreneurship education in the Visegrad region might influence the analytical skills of young entrepreneurs, but the social and community mission of the student entrepreneurs are less developed. We conclude that entrepreneurship education should focus more on the development of these intrinsic motivations.

Keywords: entrepreneurial motivation; entrepreneurship education; GUESSS; student entrepreneurship; Visegrad countries

JEL codes: I26, L26

INTRODUCTION

The connection between economic growth and entrepreneurship assumed by theoretical models, and backed by empirical tests (e.g. van Stel et al., 2005) directs a lot of attention toward entrepreneurship education. Entrepreneurship education, if done properly, should encourage the young to start and run competitive businesses. Given that the entrepreneurial activity, and especially the efficacy of the enterprises is relatively weak among the Visegrad countries (Acs et al., 2016), entrepreneurship education is important in the region.

This paper uses data gained from the 2016 Global University Entrepreneurial Spirit Students' Survey to identify the main motivation factors of university student entrepreneurs (which greatly impact the entrepreneurial intention). Following the cluster analysis, we test the relationship between the motivation factors, and different variables of entrepreneurship education at Visegrad country universities. The goal is to uncover factors that could have a positive impact on the entrepreneurial motivation, which generates positive changes in entrepreneurial intentions, and leads to higher and more effective entrepreneurial activity.

We start the paper with a literature review on entrepreneurship education, and its effect on intentions, followed by a review of entrepreneurial intentions. Section two describes the data gained from the GUESSS database. The presentation of our results in chapter three is followed by the discussion and conclusion section.

LITERATURE REVIEW

The literature on the actual effect of entrepreneurship education on entrepreneurial intentions and activity is very diverse, and non-conclusive. The defining of entrepreneurship education, as a start, is viewed very differently by the experts. Some (e.g. Alberti, 1999) take a rather strict approach, and see entrepreneurship education as the combination of passing on theoretical knowledge, and actually helping students in starting their own businesses. This latter element is not regarded as a necessary component by the majority of the scholars doing research on the field. Three different models can be identified in this field: knowledge transfer, and business plan creation (Sanchez, 2011); experimental education through entrepreneurial projects (Bechard & Gregoire, 2005); and problem-solving through interaction (Gilbert, 2012). Fayolle and Gailly (2014) identify five levels of entrepreneurship education (transferring know-why, know-how, know-who, know-when, and know-what).

It may seem trivial that the effect of education is positive on entrepreneurial intentions, but as it is showed in detail by Weber et al. (2009), education may even decrease intentions, if students taking part in it realise the risks and dangers associated with the entrepreneurial activity. Nonetheless, most empirical test show a positive impact of education on intentions (e.g. Jones et al., 2008; Bilic et al., 2011).

The dominant model of entrepreneurial intentions is based on the theory of planned behaviour (Ajzen, 1991), and the idea of the entrepreneurial event (Shapero, 1982), and was developed by Krueger and his associates. This linear model of entrepreneurial intentions suggests that intentions are influenced by perceived feasibility (self-efficacy, the confidence of the individual in successfully addressing the entrepreneurial challenges),

and by perceived desirability (the desire of the individual to start tasks related to entrepreneurship) (Krueger et al., 2000). Motivations in this model are drivers of the latter, perceived desirability (e.g. Douglas, 2013; Antonioli et al., 2016).

Existing motivational theories are mostly rooted in economics and psychology, and they often conflict with each other. One group of theories concentrates on the so called push factors; the so called drive theories. Another one focuses on the pull factors; it is called the incentives approach. Entrepreneurs are motivated by both achieving a certain success, and avoiding failure (Deci, 1975). Motivation can come internally (intrinsic motivation), and externally (extrinsic). Intrinsic motivation comprises of intangible motives that endogenously foster an entrepreneur to make a move. The need for achievement, self-actualisation or reciprocity are all examples of such intrinsic motivations (Nuttin, 1984). Extrinsic motivation on the other hand refers to external rewards (e.g. recognition, monetary payoff).

Empirical tests confirm the idea that motivations influence behaviour, and so they are an important influencer of entrepreneurial intentions and activity. Ryan and Deci (2000) find that if the competence, relatedness and autonomy needs of the individual are satisfied, intrinsic motivation is the primary influencer. If, however, the above needs are not met, extrinsic motivators become dominant in behaviour. Although not an empirical, but rather a theoretical investigation, Benabou and Tirole (2003) show in their analysis how intrinsic and extrinsic motivations effect the individual's behaviour in different circumstances.

Sieger et al. (2016) investigate the social identity of entrepreneurs. They also use the GUESSS database, and concentrate on the same entrepreneurial motivation questions. Following some adjustments (deleting some questions from the analysis), they establish three factors, that they identify as Darwinian, Communitarian, and Missionary identities. They also find that there are significant regional differences in entrepreneurial identities among Western regions.

DATA AND METHODS

GUESSS (Global University Entrepreneurial Spirit Students' Survey) investigates entrepreneurial intentions and activities of university students. The survey explores the students' career intentions, the families' and students' own businesses and investigates their motivations and goals, their orientation and behaviour in their business activity. It also analyses the role of higher education and culture in the decision.

The first survey was conducted in 2003 with the participation of two countries. In 2016 50 countries had joined the project and 122,509 students sent their responses to the questionnaire. In the framework of this paper we investigate the sample of the Visegrad countries (Czech Republic, Hungary, Poland and Slovak Republic). Table 1 shows the distribution of the sample according to the countries and the descriptive statistics of the respondents.

The share of entrepreneurs within the sample is not homogenous in the selected countries. The Czech Republic has the highest share with 10.1% of the respondents running a business of their own, while Poland (3.8%) has the lowest share of entrepreneurs.

50.7% of the entrepreneurs is self-employed, and the ratio of micro enterprises is also high in all Visegrad countries. There is considerable heterogeneity in the sample ac-

cording to firm size: Poland has the lowest share of entrepreneurs among university students, but the highest share of larger firms.

Table 1. Descriptive statistics of the Visegrad Four respondents (2016)

Country	Study level, sex	%	Area of studies	%
Hungary	Undergraduate	73.1	Arts / Humanities	3.8
	Graduate	14.4	Engineering	28.0
	Other	12.5	Human medicine / health sciences	15.5
5,182 respondents	Female	58.6	Law & economics	33.2
	Male	41.4	Mathematics and natural sciences	4.6
			Art sciences	0.5
			Social sciences	4.7
			Other	9.7
Poland	Undergraduate	73.9	Arts / Humanities	3.8
	Graduate	22.9	Engineering	24.5
	Other	3.2	Human medicine / health sciences	7.2
6,388 respondents	Female	64.4	Law & economics	31.7
	Male	35.6	Mathematics and natural sciences	4.9
			Art sciences	0.1
			Social sciences	7.7
			Other	20.0
Czech Republic	Undergraduate	57.2	Arts / Humanities	5.1
	Graduate	39.7	Engineering	20.0
	Other	3.1	Human medicine / health sciences	4.1
1,135 respondents	Female	62.2	Law & economics	46.6
	Male	37.8	Mathematics and natural sciences	4.8
			Art sciences	3.5
			Social sciences	2.5
			Other	13.5
Slovak Republic	Undergraduate	56.3	Arts / Humanities	11.6
	Graduate	37.3	Engineering	10.4
	Other	6.4	Human medicine / health sciences	7.8
3,266 respondents	Female	71.0	Law & economics	38.2
	Male	29.0	Mathematics and natural sciences	9.1
			Art sciences	0.9
			Social sciences	12.9
			Other	9.1

Source: own calculations based on GUESSS 2016 database; Arts / Humanities (linguistics, cultural studies, religion, philosophy, history); Social sciences (psychology, politics, educational science); Engineering (including computer sciences and architecture); Art sciences (art, design, dramatics, music).

Mainly descriptive statistics were used to describe entrepreneurial motivations in the Visegrad countries, and the stochastic relationships among the variables were tested. We consider these methods appropriate for highlighting the main differences among the analysed countries' entrepreneurs. SPSS 25.0 software was used for the analyses. The structure of the tables follows the logic of the output tables of the software.

Table 2. The share of those who answered yes to the question: Are you already running your own business / are you already self-employed?

	Ratio of entrepreneurs	Within this				
		self employed	micro	small	medium	large
Poland	3.8	45	45	7	3.1	0
Czech Republic	10.1	53.4	42.7	2.9	1	0
Slovak Republic	6.9	58.3	39.4	2.3	0	0
Hungary	5.6	48.4	47.7	3.9	0	0

Source: own study.

RESULTS

Factors of entrepreneurial motivation

The motivation and goals were surveyed by Question 9.2 of GUESSS. The first batch of questions discovered the motivations that were most important when starting the business, the second investigated the primary motives of the founders and the third batch of questions concentrated on the most important goals during the operation of the firm (for the list of questions see Table 3).

There are significant differences among countries in case of all motives and goals (the value of Eta is between 0.15 and 0.3, p=0,000). Further differences can be detected according to sex, age, evaluation of the higher education environment, and study field. The outcomes, however, are very difficult to map because of the high number of variables. In order to decrease the number of variables, and to get a better idea of the background structure, a factor analysis was conducted, and 5 factors were identified.[1] The value of the Kaiser-Meyer-Olkin is 0.89, which means that our data are perfectly suited for a factor analysis. The 5 factors explain 69.78% of the total variance. Table 3 shows the factor weights of all the variables belonging to our 5 factors.

Based on the factor analysis we can conclude that there are 5 distinctive motivations of university student entrepreneurs in the CEE countries: 1) having a strong customer focus; 2) following social missions; 3) concentrating on community goals; 4) pursuing individual goals; and 5) concentrating on market competition. In the following section we provide a short description of the 5 factors.

1. Customer focus: The first motivation factor is to identify and serve the special needs of the customers, which also means that the entrepreneurs with a strong customer focus motivation tend to focus on a specific group of customers instead of the wider public. The customer focus is an intrinsic motivations, and it has four components in our analysis (see Component 1 in Table 3).

[1] For a better fit, we have excluded three variables from the analysis. These are the following: … to have thoroughly analysed the financial prospects of my business; …to do something that allows me to enact values which are core to who I am; … to solve a societal problem that private businesses usually fail to address (such as social injustice, environmental protection).

2. Social mission: One of the motivators is to follow a strong societal agenda, play a proactive role in trying to change the society, solve social problems, and spread specific values in the community. The social mission is a purely intrinsic motivation that includes five variables according to our analysis (see Component 2 in Table 3).

Table 3. Factor weights and factors of entrepreneurial motivations

Rotated Component Matrix[a]					
	Component				
	1	2	3	4	5
… to be able to express to my customers that I fundamentally share their views, interests and values.	.800				
… to convey to my customers that I want to satisfy their needs rather than just to do business.	.780				
… to provide a product/service that is useful to a group of people that I strongly identify with (e.g., friends, colleagues, club, community).	.739				
… to be true in serving a group of people that I strongly identify with (e.g., friends, colleagues, club, community).	.719				
… to make the world a "better place" (e.g., by pursuing social justice, protecting the environment).		.811			
… to be a highly responsible citizen of our world.		.716			
… to convince others that private firms are indeed able to address the type of societal challenges that my firm addresses (e.g., social justice, environmental protection).		.705			
… to have a strong focus on what the firm is able to achieve for society-at-large.		.679			
… to play a proactive role in changing how the world operates.		.652			
... to play a proactive role in shaping the activities of a group of people that I strongly identify with (e.g., friends, colleagues, club, community).			.791		
… to solve a specific problem for a group of people that I strongly identify with (e.g., friends, colleagues, club, community).			.765		
… to support and advance a group of people that I strongly identify with.			.598		
… to have a strong focus on a group of people that I strongly identify with (e.g., friends, colleagues, club, community).			.597		
… to be able to signal my capabilities to others (i.e., future employers, colleagues).			.439		
… to mainly achieve financial success.				.880	
… to make money and become rich.				.844	
… to advance my career in the business world.				.659	
… to have a strong focus on what my firm can achieve vis-à-vis the competition.					.845
… to establish a strong competitive advantage and significantly outperform other firms in my domain.					.836
… to operate my firm on the basis of solid management practices.					.540

Source: own elaboration; Extraction Method: Principal Component Analysis. Rotation Method: Varimax with Kaiser Normalization. a. Rotation converged in 8 iterations.

3. Social mission: One of the motivators is to follow a strong societal agenda, play a proactive role in trying to change the society, solve social problems, and spread spe-

cific values in the community. The social mission is a purely intrinsic motivation that includes five variables according to our analysis (see Component 2 in Table 3).

4. Collective/community goals: Similarly to the previous one (Factor 2), this factor also includes variables that are focused on solving social challenges, and playing a proactive role in the community. The difference between the two factors is the scope: while Factor 2 includes goals that concern the society as a whole, Factor 3 is limited to smaller, specific communities. In this sense, Factor 3 is the closest to the motivations of the social entrepreneurs. Five variables form our final factor (see Component 3 in Table 3).
5. Individual goals: Factor 4 is the only one in our analysis that includes extrinsic motivations (financial success, career advancement etc.) (see Component 4 in Table 3).
6. Competition/market focus: The final group of motivators prompt to an analytical focus (the goal is to have a very good understanding about the market position of the firm, about the strength and opportunities), and the strong will to compete and to outperform the competitors. Yet another intrinsic motivation, with three variables (see Component 5 in Table 3).

The influence of education

GUESSS has three groups of questions that can be used to check the impact of education on the entrepreneurial process. The first one asked the students to evaluate the entrepreneurial nature of the university's environment. Respondents were asked to give their evaluations on a 1-7 Likert scale. Hungarian responses had the lowest score, while the mean of Polish answers was the highest. The Kruskal-Wallis test shows that there are significant differences among the countries in this area.

Table 4. Students' evaluation of the universities' entrepreneurial environment in the Visegrad countries

	Hungary	Poland	Czech Republic	Slovak Republic
The atmosphere at my university inspires me to develop ideas for new businesses	3.63	4.00	3.92	3.47
There is a favourable climate for becoming an entrepreneur at my university	3.64	4.19	3.79	3.42
At my university, students are encouraged to engage in entrepreneurial activities	3.55	4.42	3.80	3.49

Source: own study.

The second group of question was phrased to evaluate the courses and training concentrating on the development of entrepreneurial knowledge and skills. The Visegrad countries have different means in this area as well (proved again by the results of the Kruskal-Wallis test).

The third group of questions surveyed the presence of entrepreneurship-related courses in the curricula. According to the responses, almost half of the students has not had any courses that had entrepreneurship as the main topic. The ratio is worst in the Czech Republic (53.2%), and best in Poland, where only 30% of the respondents reported that they did not have any entrepreneurial courses.

Table 5. Students' evaluation of the courses and training offered by the universities on entrepreneurship

	Hungary	Poland	Czech Republic	Slovak Republic
…increased my understanding of the actions someone has to take to start a business.	3.72	3.84	3.93	3.55
…enhanced my practical management skills in order to start a business.	3.65	4.10	3.74	3.42
…enhanced my ability to develop networks.	4.37	4.05	4.05	3.90
…enhanced my ability to identify an opportunity.	4.45	4.57	4.01	4.00

Source: own study.

Poland also takes the lead in elective entrepreneurial courses: 33% of the students have opted for such elective courses in the country. Higher ratios can be found in compulsory entrepreneurial courses, but the differences among the Visegrad countries are still there. Poland is also a frontrunner in student participation in entrepreneurship programmes, as well as in the share of students who chose their respective universities mainly because of its strong entrepreneurial reputation.

Table 5. Entrepreneurship courses in the Visegrad country universities

	Hungary	Poland	Czech Republic	Slovak Republic
I have not attended a course on entrepreneurship so far.	44.4	30.4	53.2	40.0
I have attended at least one entrepreneurship course as elective.	26.4	33.0	28.1	24.5
I have attended at least one entrepreneurship course as compulsory part of my studies.	40.8	38.6	22.1	38.0
I am studying in a specific program on entrepreneurship.	3.0	27.4	7.1	11.7
I chose to study at this university mainly because of its strong entrepreneurial reputation.	4.7	12.3	3.8	8.9

The proportion of respondents who answered yes.
Source: own study.

Differences in responses are partially explained by the study field and level of the students, and also by the number of years spent at the universities, but if we control for these variables, there are still significant differences among the four countries. This was proved by running binomial logistic regression on the data.

The influence of education on entrepreneurial motivations

Given that there is a strong correlation among the responses given to the questions evaluating the entrepreneurial atmosphere of the university, and also on the ones evaluating the courses and training, these variables can be combined. In both cases the mean of the responses was calculated, and then we tested whether there is a correlation between the means, and the entrepreneurial motivation factors. Table 6 summarises the correlation coefficients. Significant relationships can be detected in case of three factors: Social mission (Factor 2), Collective/community focus (Factor 3), and Competi-

tion/market focus (Factor 5). The strongest correlation was found with Factor 5, which is not surprising given that the typical entrepreneurship course focuses on knowledge related to market and competition evaluation, on analytical tools that help to boost the efficiency of the enterprise.

Table 6. Correlation between the motivation factors, and the mean of two education-related variables: evaluation the entrepreneurial atmosphere of the university, and evaluation of the entrepreneurship-related courses and training (Visegrad countries combined)

		University atmosphere	Studies
Costumer focus	Pearson Correlation	-.013	-.029
	Sig. (2-tailed)	.712	.423
Social mission	Pearson Correlation	.122**	.145**
	Sig. (2-tailed)	.001	.000
Collective / community focus	Pearson Correlation	.098**	.133**
	Sig. (2-tailed)	.006	.000
Individual focus	Pearson Correlation	.040	.036
	Sig. (2-tailed)	.263	.311
Competition / market focus	Pearson Correlation	.174**	.198**
	Sig. (2-tailed)	.000	.000

** Correlation is significant at the 0.01 level (2-tailed).
Source: own study.

Country-level analysis reveals that it is only Factor 5 (Competition/market focus) which is correlated with the education variables in all countries. Factor 3 (Collective/community focus) is in significant correlation with the entrepreneurial course evaluation in three countries (Slovakia is the exception). Social mission (Factor 2) on the other hand is only significantly correlated in Hungary, and partially in Poland.

Table 7. Country-level correlation between the motivation factors, and the mean of two education-related variables

	University atmosphere				Studies			
	Hungary	Poland	Czech Republic	Slovak Republic	Hungary	Poland	Czech Republic	Slovak Republic
Costumer focus								
Social mission	.206**				.235**	.196**		
Collective/community focus	.174**		.357**		.166**	.164*	.261*	
Individual focus	.128*							
Competition/market focus	.165**	.140*		.209**	.170**	.178**	.201*	.259**

** Correlation is significant at the 0.01 level (2-tailed)
* Correlation is significant at the 0.05 level (2-tailed)
Source: own study.

The third group of variables (courses taken in the topic entrepreneurship) are only correlated with Competition/market focus. The value of the factor increases if the re-

spondent has taken such courses, but the value of the Eta is low, so the relationship is low between the variables.

DISCUSSION AND CONCLUSION

We identified five factors of entrepreneurial motivation: 1) having a strong customer focus; 2) following social missions; 3) concentrating on community goals; 4) pursuing individual goals; and 5) concentrating on market competition. These factors explain around 70% of the variance in responses given to questions measuring the motivation of university students in the Visegrad countries. Three of the factors are clearly intrinsic, Factor 4 is extrinsic, while Factor 5 is complex. It includes intrinsic elements (the drive to beat the competitors, and be the best), but it also includes analytical elements such as market analysis, survey of competitors, the will to base the operation of the firm on solid management practices.

We have also found that some features of university entrepreneurship education are correlated with the factors of entrepreneurial motivation. The correlation coefficients, however, suggest a weak relationship. The strongest relations could be identified in case of Factor 5, Competition/market focus. Factor 5 is correlated with the university atmosphere (how much support the students believe the university atmosphere provides to develop their own business ideas), the evaluation of entrepreneurship-related courses (how useful the students found them to develop skills important for entrepreneurship), and also the participation in such entrepreneurship courses. The relationships are all positive, so higher and more efficient activity of the universities in these areas could increase the students' competition drive.

The university atmosphere and the course quality is also correlated with intrinsic motivations, like Social mission (Factor 2), and Community focus (Factor 3) in the Visegrad region. A country-level analysis reveals, that these factors might be influenced by the education in Poland, and in Hungary. In the other countries the relationship is generally not significant.

One of the conclusions we can draw from these findings is that universities could do better with their entrepreneurship education. They mostly influence the Competition focus of the students, so the education has an effect on the Know-what level of Fayolle & Gailly (2014), or Bilic et al. (2011). These courses should be remade so that they would focus more on the social and community drives of the students. These motivations are already there, it is just not made clear to the students that these drives can be made real by starting a business on their own.

One of the possibilities of further research is to focus on countries, especially Hungary and Poland, and even on those universities, where the social and community mission of students is stronger correlated with the education characteristics. This analysis has to be qualitative in nature, and could help in identifying factors crucial in strengthening the social motivation of the young entrepreneurs.

The data used represent responses recorded in 2016. For this reason we cannot detect changes in the mind-set of students over time. Although GUESSS is repeated every second year, the number of students who took part in at least two surveys is extremely limited, so time comparisons could not be made. This is one of the limitations of our results. Another one is that GUESSS focuses on university students alone, while the entrepreneurial youth is wider than that.

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