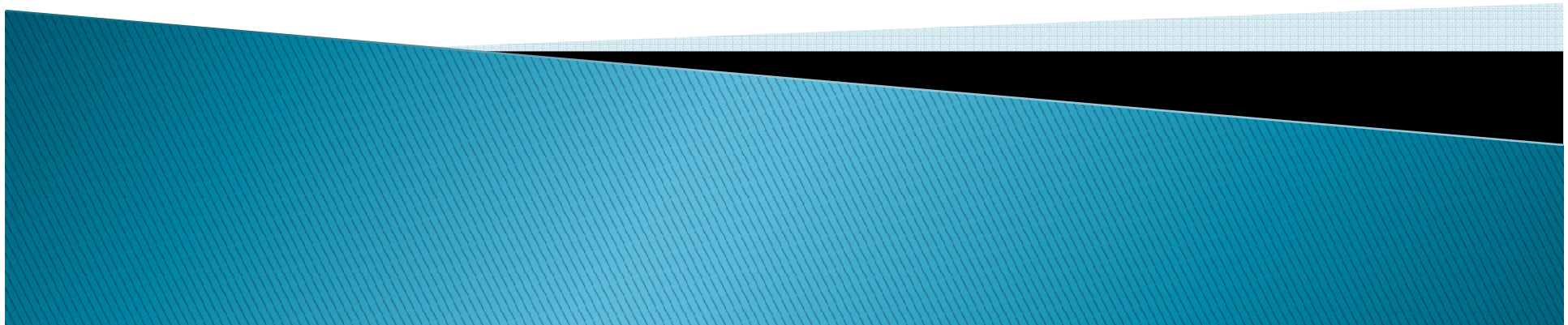


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- VISEGRAD PROJECT 2018: HOW TO PREVENT SMEs FROM FAILURE (Actions based on comparative analysis in Visegrad countries and Serbia)

The reasons for SME's failure, comparative analysis and research

Ivan Mihajlović, Isidora Milošević,
Anđelka Stojanović, Nenad Nikolić

University of Belgrade, Technical Faculty in Bor, Engineering Management
Department, Vojske Jugoslavije 12, 19210 Bor, Serbia (imihajlovic@tf.bor.ac.rs);



Abstract

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- ▶ *This project is presenting the preliminary results of which are influencing the failure of SMEs. This first report is just the starting base for the larger research that will address the analysis of the most important factors that lead to closure of SMEs in different regions of the Europe.*
- ▶ *Basic factors of interest, which can be segmented as the individual characteristics of the entrepreneur or non-individual characteristics of the SMEs, based on wide literature review, were used to define the measuring scale for assessment of the most important factors which can lead to failure of SMEs, in previous research [1].*
- ▶ *Such defined initial questionnaire form was used, in a pilot test research, to assess the opinion of the real entrepreneurs who suffered the failure of their previous businesses in Serbia.*

<http://bussol4you.blogspot.com/2016/10/failure-and-recovery-of-small-and.html>

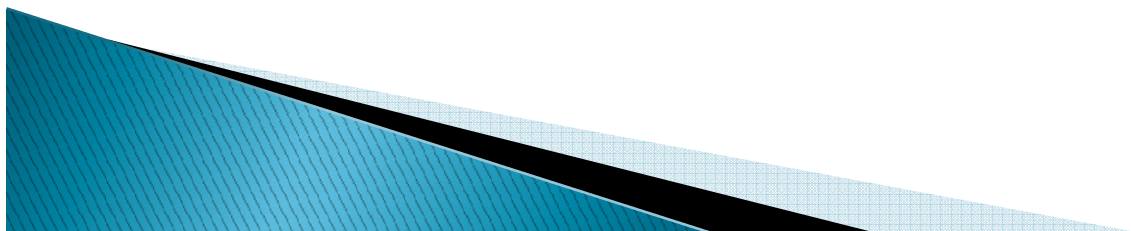
- ▶ *The idea of the research is to develop adequate measuring scale, which will be used to measure the potential failure of the existing SMEs, based on the rates developed in accordance to the factors which lead to the failure of the real SMEs in the past, which will be useful tool for wide European business environment.*
- ▶ *Experiences and results from V4 partners will be of large importance to make comparative analysis.*

Keywords: SMEs, Failure of SMEs, Statistical data analysis

Introduction

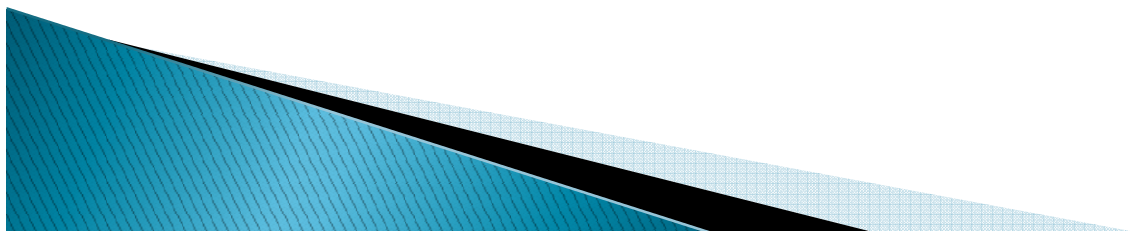


- ▶ Most Entrepreneurship Cases are presenting the success stories,
- ▶ Failure– Learning from somebody's else mistakes,
- ▶ Measuring scale – for measuring the risk of potential failure of healthy SMEs,



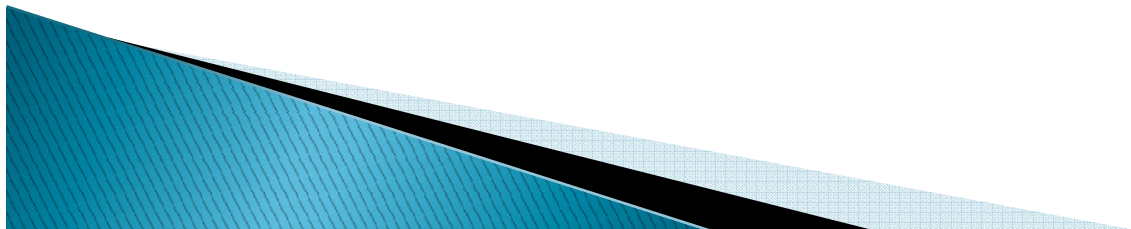
The data from Serbia on SMEs failure

- ▶ The effects of the global economic crisis are most expressed in the operations of the SME sector, as a slow recovery of key indicators in the post-2008 period has been observed.
- ▶ In the transition period after 2000, the SME sector has not strengthened sufficiently to represent the leading driving and development force of the country's economic progress, while large enterprises have had a significant impact on the functioning of the domestic economy.



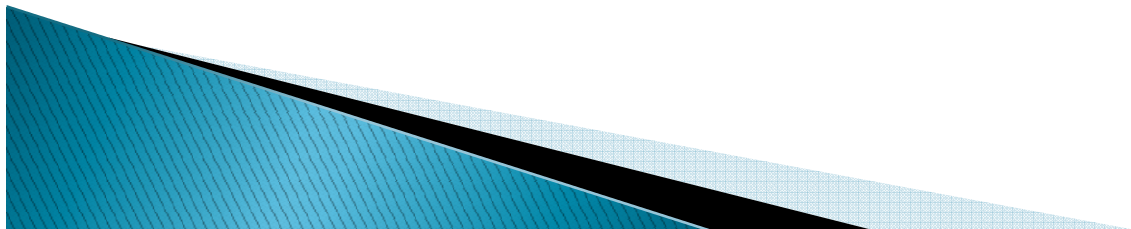
The data from Serbia on SMEs failure

- ▶ The unfavorable business conditions and the global economic crisis have led to the drastic deterioration of the ratio between newly founded and extinguished small and medium-sized enterprises in Serbia.
- ▶ According to the data, in the first 10 months of 2011, 7097 small and medium-sized enterprises were established, which is 12 percent less than in the same period of 2010.
- ▶ At the same time, 11607 companies were closed, which is 87.8 percent more than in at the same time in 2010.



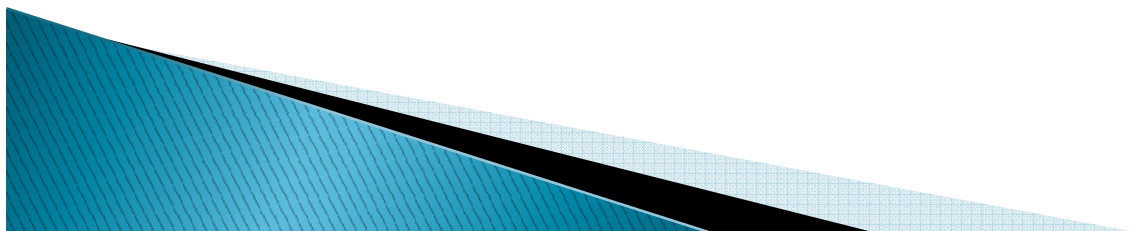
The data from Serbia on SMEs failure

- ▶ Prior to the WE crisis, the trend of establishment SMEs in Serbia was completely different, so small and medium-sized enterprises opened up massively, especially those with two employees (micro enterprises).
- ▶ Due to adverse movements in the market and the overall economic environment caused by the crisis, these companies made huge losses instead of profit, which inevitably led to their closure.
- ▶ The reasons behind this poor situation in the SME sector are the lack of large-scale economic systems and industry, in general, as well as the non-purpose spending of funds from the funds to support this sector.
- ▶ Small and Medium Enterprises and Entrepreneurs (SMEEs) are a significant segment of the Serbian economy: they make up 99.8% of total active enterprises, employ almost 2/3 employees in the non-financial sector and participate with 32% in the formation of the GDP of Serbia (Data from 2015)



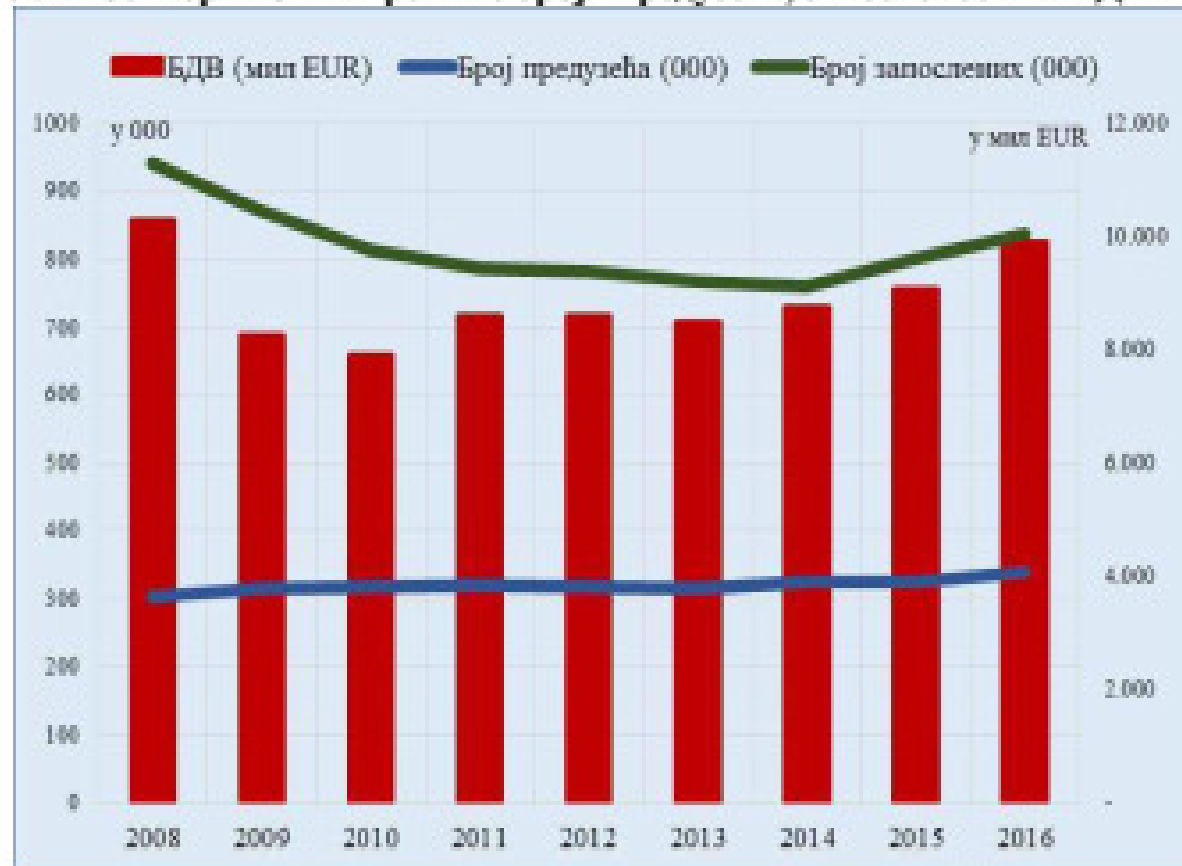
The data from Serbia on SMEs failure

- ▶ The number of business entities in the SME sector in 2015, compared to 2008, increased by 21 150, or by 7.0%.
- ▶ However, the total number of employees in the SME sector was reduced by 14.7% or 138 439 workers in the same period (77.6% of the total number of employees in the non-financial sector of the economy was 178.463).
- ▶ In 2015, the improvement of the business performance of the SME sector in relation to 2014 was noted, due to the improvement of the entire business environment.



GDP in mil EUR, No of enterprises, No of employees

Графикон 1: Сектор МСПП-кретање броја предузећа, запослености и БДВ 2008-2016.



Извор: Министарство привреде на основу података РЗС.

**In 2016, 42 044 enterprises were established,
and 24 728 of the SME were closed (net growth
17 316).**

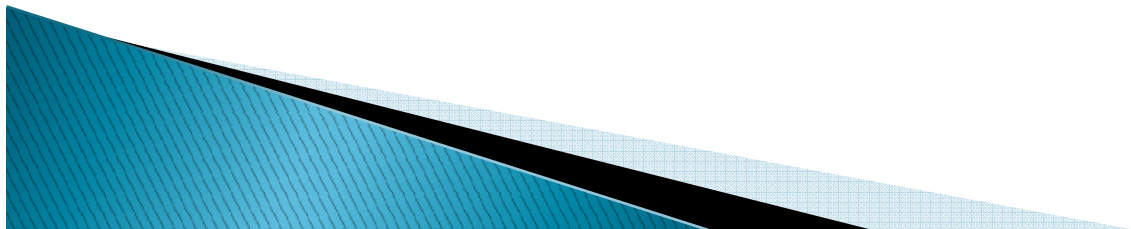
Research scope



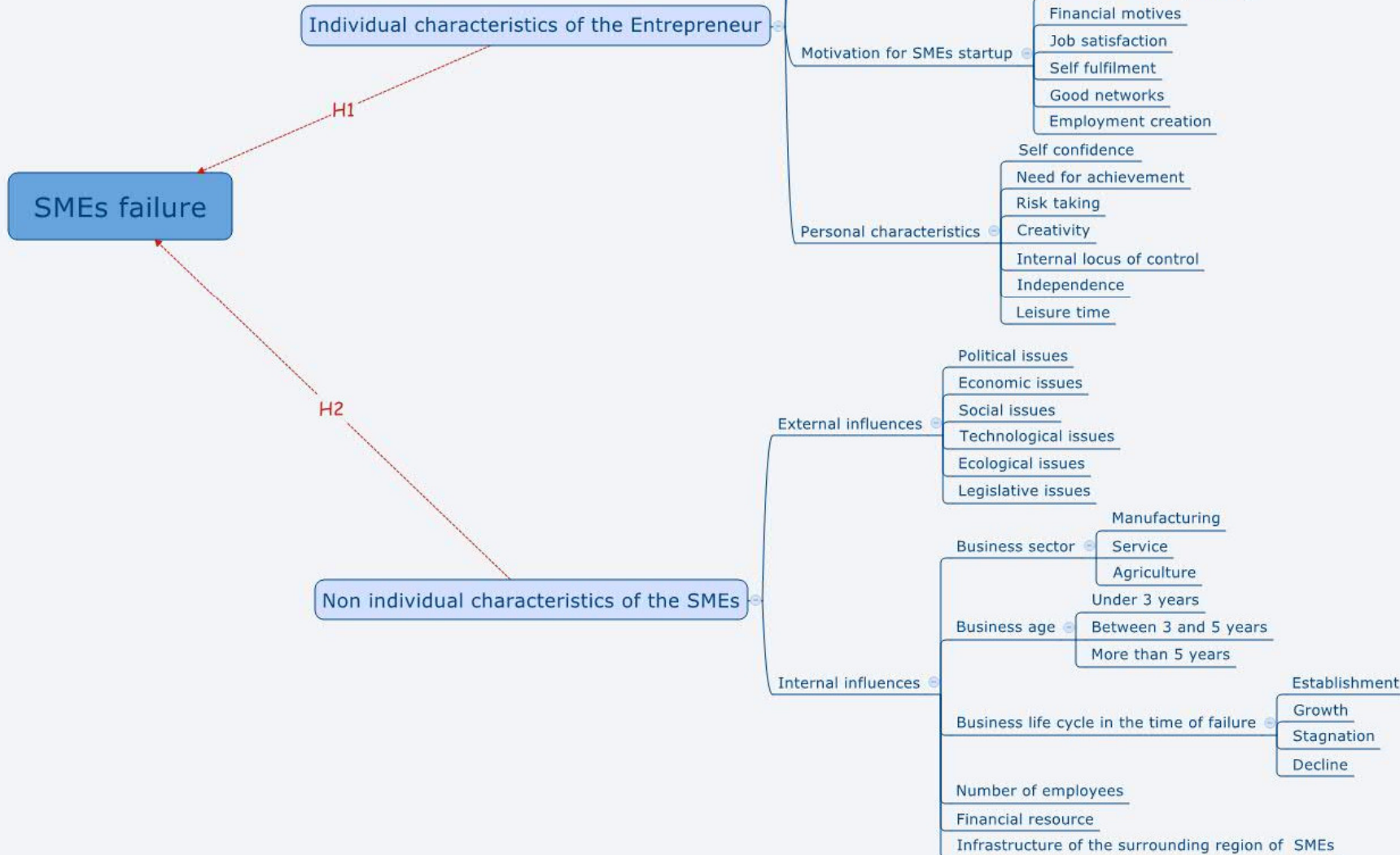
- ▶ Based on literature review– All identified factors that influences on failures of SMEs can grouped into two main groups:
 - (1) individual and
 - (2) non-individual

The non-individual factors can be further, divided into two groups:

- (2.1) internal and
- (2.2) external influences



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Research



- ▶ Questionnaire based on individual, non-individual and demographics of the SMEs and Entrepreneurs, who changed their business activity,
- ▶ In available literature, all factors were analyzed separately,
- ▶ Correlation among the factors,
- ▶ 20 questions for demographics and 41 questions for the factors influencing failure,
- ▶ 150 entrepreneurs, accurately responded 130 (86.6%),
- ▶ Likert scale was used for the gradation, 1 – I absolutely disagree to 5 – I absolutely agree.
- ▶ software packages SPSS 18.0 and LISREL 8.80.

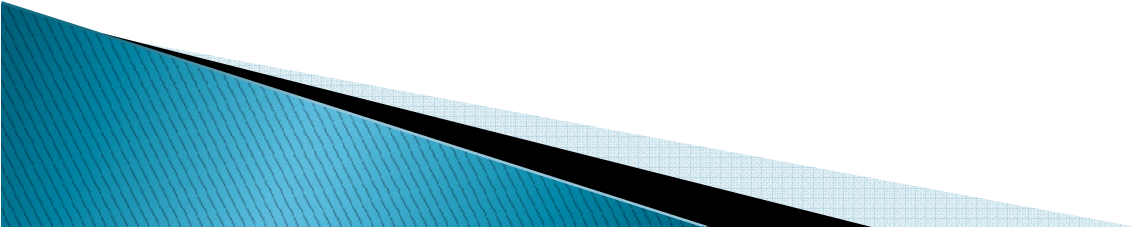


Results – Demographics

Characteristics			<i>N</i>	%
Failed SMEs (<i>N</i> =130)	The sector of the previous business	Manufacturing	25	19.2
		Service	99	76.2
		Agriculture	6	4.6
	Business age in time of failure	<3	32	24.6
		3-5	29	22.3
		>5	69	53.1
	Business life cycle in time of failure	Establishment	12	9.2
		Growth	17	13.1
		Stagnation	52	40
		Decline	49	37.7
Number of employees in the SMEs that suffered from failure	<10	109	83.8	
	11-50	19	14.6	
	51-100	0	0	
	101-250	2	1.5	
Newly established SMEs after the failure or new entrepreneurial activity (<i>N</i> =85)	The sector of the current SMEs business	Manufacturing	24	28.2
		Service	51	60
		Agriculture	10	11.8
	Number of employees in the current SMEs	<10	62	72.9
11-50		19	22.4	
51-100		2	2.4	
101-250		2	2.4	

Results – Demographics

(N=130)	Age	<29	19	14.6
		30-44	43	33.1
		45-54	32	24.6
		>55	36	27.7
	Gender	M	96	73.8
		F	34	26.2
	Age in Failure time	<25	26	20
		25-45	71	54.6
		>45	33	25.4
	Previous experience in related sector	<5	85	65.4
		6-10	26	20.0
		>10	19	14.6
	Previous entrepreneurial experience	<5	42	32.3
		5-10	32	24.6
>5		56	43.1	



Results – Demographics

Level of education	High school diploma and under	84	64.6
	B. Sc.	31	23.8
	M. Sc.	2	1.5
	Ph. D.	2	1.5
	Other	11	8.5
Field of education	Technical-technological	69	53.1
	Legal-economics	30	23.1
	Social-humanistic	31	23.8
Marital status	Single	30	23.1
	Married	85	65.4
	Divorced	15	11.5

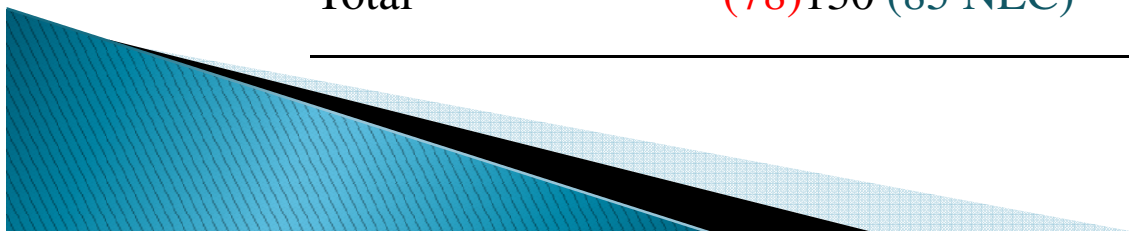
Results – Demographics

Hours spent at work, weekly	<40	8	6.2
	40-50	65	50
	>50	57	43.8
Hours spend in solving strategic problems/decision making/addressing the operational challenges, weekly:	<20	93	71.5
	20-30	17	13.1
	>30	20	15.4
Hours spend in administrative work, weekly:	<20	105	80.8
	20-30	13	10
	>30	12	9.2

The key research question (Y)

- ▶ The key research question (Y) was considering the level to which entrepreneurs managed to recover from the failure. The statistics for the key question is presented in Table 2.

Level of recovery	Frequency	Percent
1,00	52	40.0
2,00	12	9.2
3,00	30	23.1
4,00	26	20.0
5,00	10	7.7
Total	(78)130 (85 NEC)	100.0



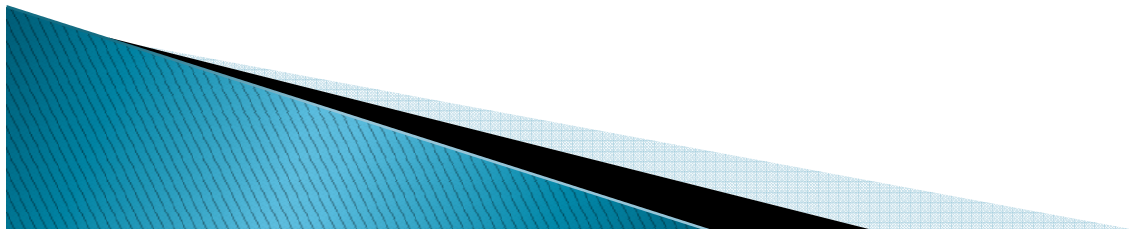
The time that was necessary to reach the level of recovery above 1

	Frequency	Percent
Under 3 years	43	55.1
Between 3 and 5 years	22	28.2
More than 5 years	13	16.7
Total	78	100.0

Testing the sample



- ▶ Correlation analysis ($r > 0.5$; $p < 0.05$)
- ▶ Cronbach alpha, Spearman–Brown and Ω tests (0.7)
- ▶ When conducting the consistence tests, all the factor groups of individual and non-individual factors, had values above 0.7, with exception of group I1, which includes the questions (I1Q1: If I would have more time for private activities I would spend it with my family; I1Q2: If I would have more time for private activities I would spend it with my friends; I1Q3: If I would have more time for private activities I would spend it on my hobby; I1Q4: If I would have more time for private activities I would spend it going on vacation; I1Q5: If I would have more time for private activities I would spend it on voluntary work; I1Q6: If I would have more time for private activities I would spend it CSR).
- ▶ Accordingly, this group of questions was omitted from the further quantitative analysis, however, will be the subject of qualitative analysis in subsequent research.

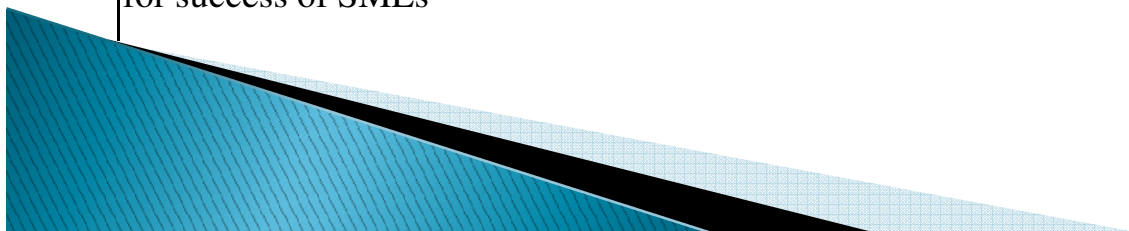


Internal correlations between factors influencing the SMEs failure

Correlation pairs		Value of p	Value of Pearson Correlation
I1Q5: If I would have more time for private activities, I would spend it on voluntary work	I1Q6: If I would have more time for private activities, I would spend it on social responsible work	.000	.774**
I2Q1: Self confidence is the most important personal characteristic of entrepreneur for success of SMEs	I2Q4: Creativity is the most important personal characteristic of entrepreneur for success of SMEs	.000	.537**
I2Q1: Self confidence is the most important personal characteristic of entrepreneur for success of SMEs	I2Q5: Internal locus of control is the most important personal characteristic of entrepreneur for success of SMEs	.000	.502**
I2Q1: Self confidence is the most important personal characteristic of entrepreneur for success of SMEs	I3Q4: My motivation for SMEs startup was self fulfillment	.000	.577**
I2Q2: Need of achievement is the most important personal characteristic of entrepreneur for success of SMEs	I2Q3: Risk taking is the most important personal characteristic of entrepreneur for success of SMEs	.000	.515**

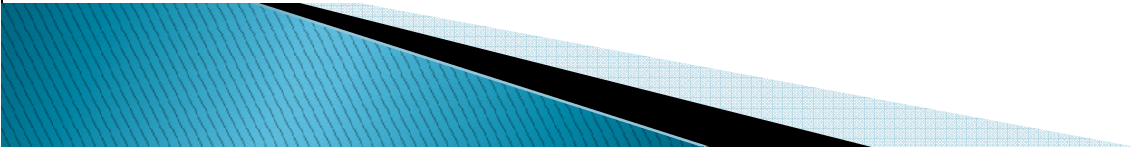
The Component Matrix of the factor analysis

	1	2	3	4	5
I2Q1: Self confidence is the most important personal characteristic of entrepreneur for success of SMEs	.543	-.225	.388	-.048	-.266
I2Q2: Need of achievement is the most important personal characteristic of entrepreneur for success of SMEs	.629	-.021	.004	-.258	-.100
I2Q3: Risk taking is the most important personal characteristic of entrepreneur for success of SMEs	.600	-.055	.369	-.040	-.251
I2Q4: Creativity is the most important personal characteristic of entrepreneur for success of SMEs	.500	-.200	.412	-.163	-.340
I2Q5: Internal locus of control is the most important personal characteristic of entrepreneur for success of SMEs	.683	-.339	.334	.079	-.109
I2Q6: Independence is the most important personal characteristic of entrepreneur for success of SMEs	.589	-.466	.290	.040	-.010
I2Q7: Education is the most important personal characteristic of entrepreneur for success of SMEs	.313	-.278	.477	.060	.117



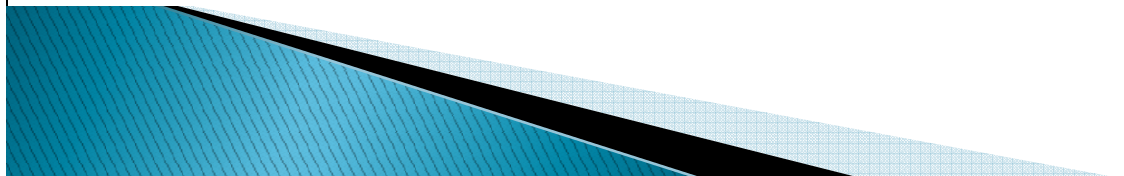
The Component Matrix of the factor analysis

I3Q1: My motivation for SMEs startup was desire to be independent	.483	-.331	.017	.061	.230
I3Q2: My motivation for SMEs startup was financial motives	.359	-.206	-.451	.120	.055
I3Q3: My motivation for SMEs startup was job satisfaction	.450	-.311	.231	.157	.507
I3Q4: My motivation for SMEs startup was self fulfillment	.633	-.154	.338	.045	.232
I3Q5: My motivation for SMEs startup was good networks	.624	-.173	-.200	.093	.276
I3Q6: My motivation for SMEs startup was employment creation	.297	.251	.334	.048	.543
I3Q7: My motivation for SMEs startup was access to additional financial resources	.366	.365	-.127	-.168	.451



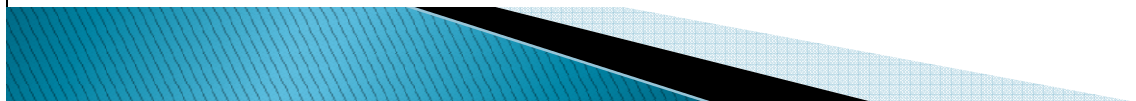
The Component Matrix of the factor analysis

E1aQ1: Political issues, as external factor, can have importance for SMEs operational problems.	.637	-.073	-.253	.074	-.178
E1aQ2: Economic issues, as external factor, can have importance for SMEs operational problems.	.588	-.313	-.281	.215	-.063
E1aQ3: Social issues, as external factor, can have importance for SMEs operational problems.	.520	-.185	-.225	.382	-.330
E1bQ1: Technological issues, as external factor, can have importance for SMEs operational problems.	.474	.279	-.184	.514	-.099
E1bQ2: Ecological issues, as external factor, can have importance for SMEs operational problems.	.470	.303	-.201	.505	-.221
E1bQ3: Legislative issues, as external factor, can have importance for SMEs operational problems.	.318	.341	-.150	.375	.094



The Component Matrix of the factor analysis

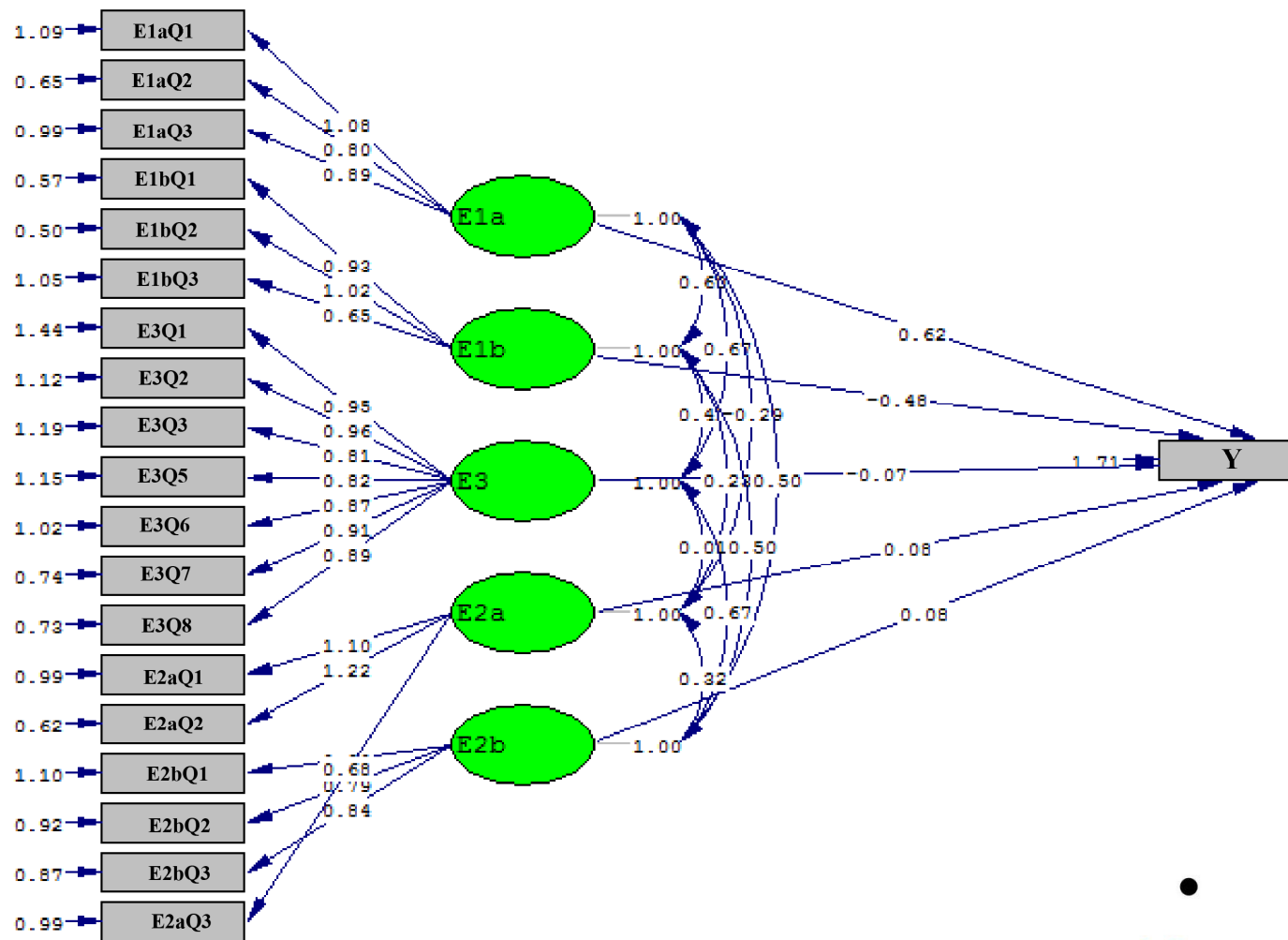
E3Q1: Management of receivables/ payables, as internal factor, can have importance for SMEs problems.	.705	-.229	-.180	-.040	-.132
E3Q2: Delay in fulfilling bank obligation, as internal factor, can have importance for SMEs problems.	.579	.292	-.131	-.341	.080
E3Q3: Fall of motivation, as internal factor, can have importance for SMEs problems.	.597	.263	.042	-.354	-.309
E3Q4: Delegation of responsibilities, as internal factor, can have importance for SMEs problems.	.408	.574	-.079	-.287	-.188
E3Q5: Difficulties in absorption/acquisition of new technologies/innovation, as internal factor, can have importance for SMEs problems.	.568	.273	-.069	-.179	-.027
E3Q6: Inability to find new potential shareholders/partners, as internal factor, can have importance for SMEs problems.	.611	.088	-.036	-.264	.082
E3Q7: The level of fixed assets free from any burden/inscription, as internal factor, can have importance for SMEs problems.	.590	.171	-.271	-.463	.080
E3Q8: The level of clearing/barter transaction, as internal factor, can have importance for SMEs problems.	.657	.057	-.291	-.178	.123



The Component Matrix of the factor analysis

E2aQ1: Transportation system is important infrastructural issue of the surrounding region of my SMEs which suffered from failure	.014	.614	.421	.067	-.031
E2aQ2: Supply of the electricity is important infrastructural issue of the surrounding region of my SMEs which suffered from failure	-.044	.685	.313	.121	-.098
E2bQ1: Possibility to increase capacity is important infrastructural issue of the surrounding region of my SMEs which suffered from failure	.464	.264	-.014	.167	.205
E2bQ2: Existing share of market for products/services is important infrastructural issue of the surrounding region of my SMEs which suffered from failure	.489	.191	.008	.160	.161
E2bQ3: Existing resources for important raw material is important infrastructural issue of the surrounding region of my SMEs which suffered from failure	.523	.361	-.023	.136	-.033
E2aQ3: Enough qualified work force in the region is important infrastructural issue of the surrounding region of my SMEs which suffered from failure	.091	.532	.387	.296	-.054

Structural Equation Model / SEM

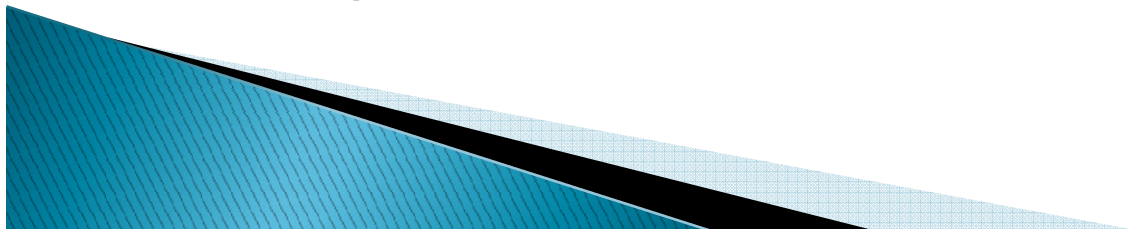


Chi-Square=247.25, df=156, P-value=0.00000, RMSEA=0.067

SEM

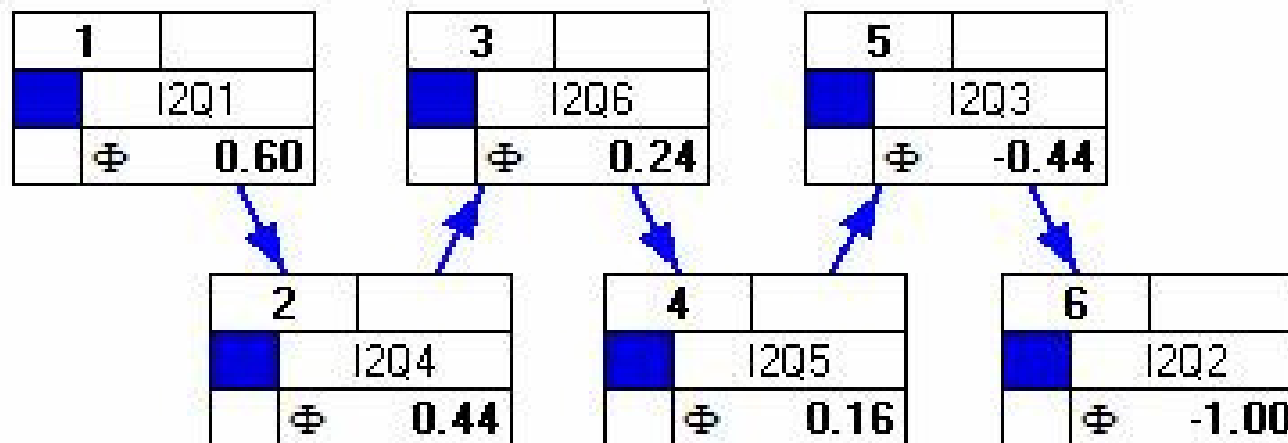


- ▶ Entrepreneurs who believe that the most important factors for SMEs failure are political (question E1aQ1), economic (question E1aQ2) and social issues (question E1aQ3), also have expressed high level of recovery from the failure (question Y). The level of correlation of the E1a groups of factors and the level of recovery (Y) is 0.62.
- ▶ On the other hand, entrepreneurs who believe that important factors for their SMEs failure were technological issues (question E1bQ1), ecological issues (question E1bQ2) or legislative issues question (E1bQ3), did not have high level of recovery from the previous failure. The correlation between the group of non-individual factors (E1b) and level of recovery Y is negative and equal to -0.46



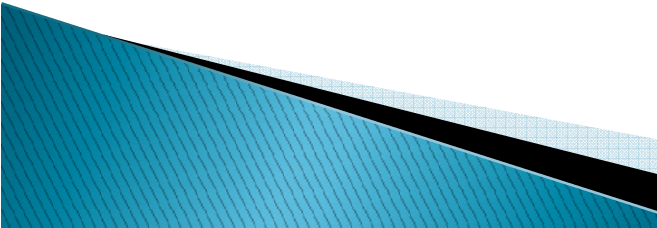
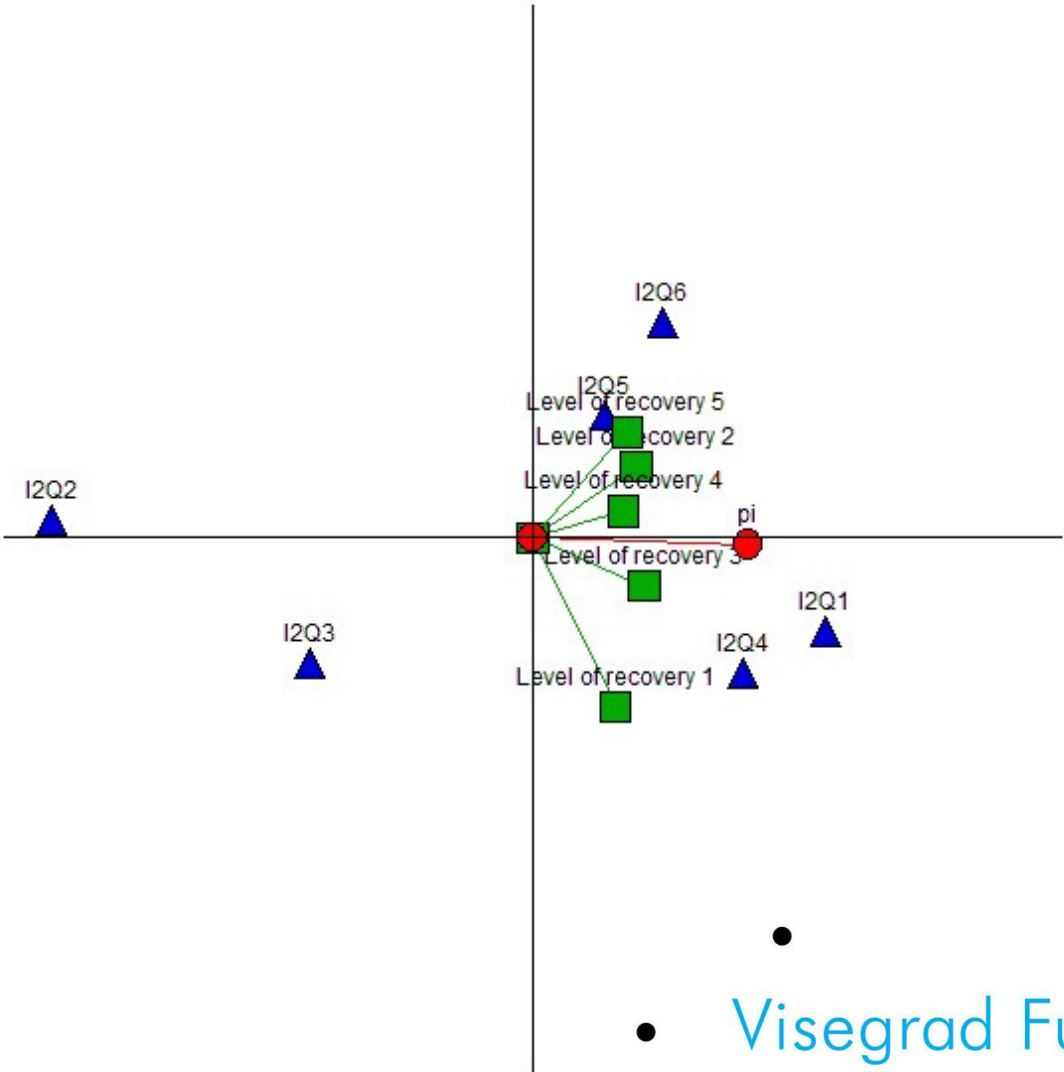
PROMETHEE – GAIA RANKING

- ▶ Explanation: the most important issue from the group of questions I2, based on opinion of all respondents, is I2Q1: „Self confidence is the most important personal characteristic of entrepreneur for success of SMEs“.
- ▶ The less important one is: I2Q2: „Need of achievement is the most important personal characteristic of entrepreneur for success of SMEs“.



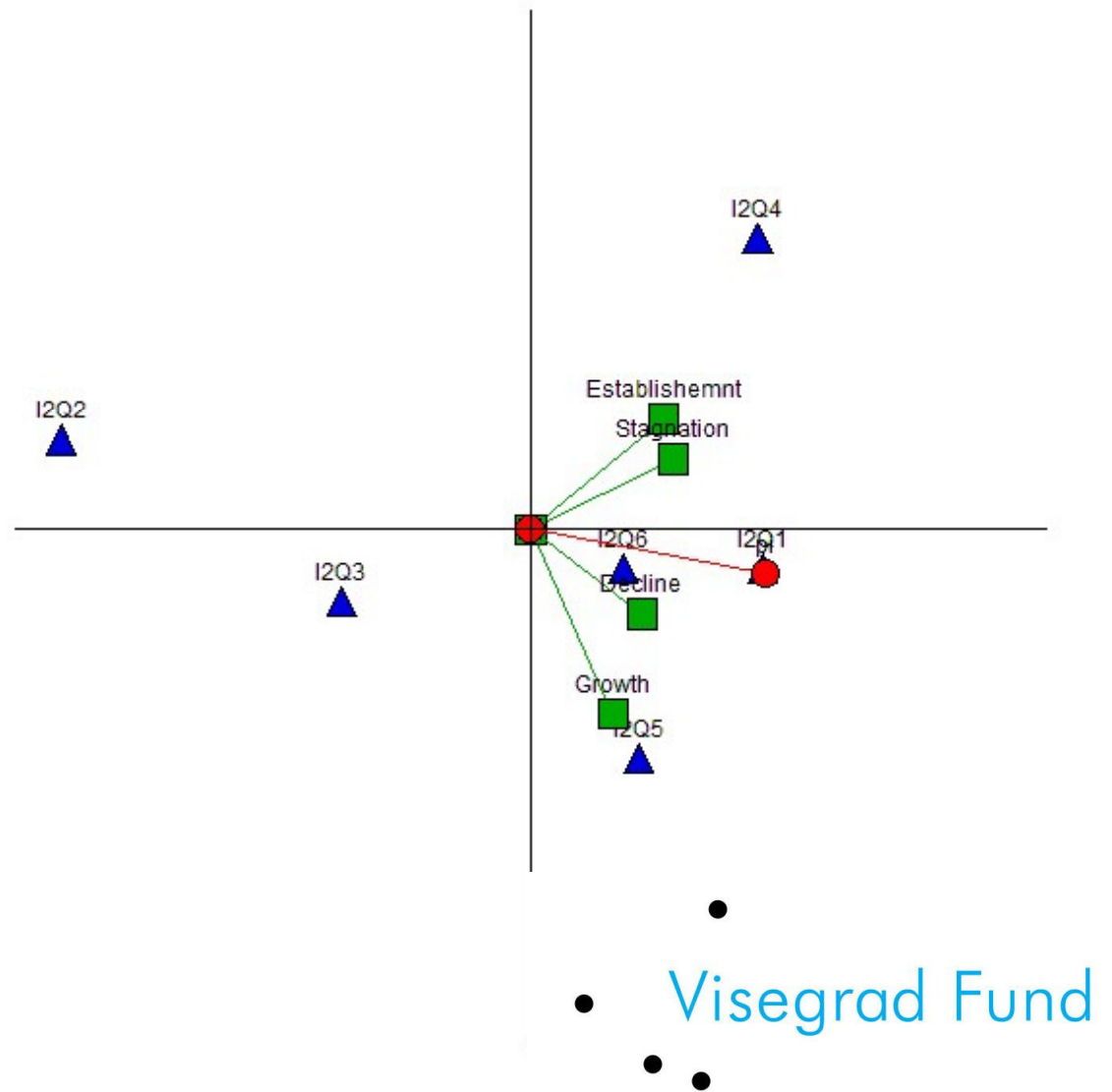
PROMETHEE – GAIA RANKING

if we want to see how the level of recovery of the SMEs does influence their rating on the questions of this group we can use the GAIA plane method:



PROMETHEE - GAIA RANKING

- ▶ Position in the Lifecycle



Acknowledgement

- ▶ Some of the initial concepts of the research presented here were obtained during joint research work in frame of the activities of the International Resita Network for Research and Innovation (www.resita.eu), which was financially supported by DAAD.



Acknowledgement

- ▶ New dimensions of the research, will be based on joint efforts to collect the responses from the SMEs in V4 region and to compare those results with the results collected in Serbia.
- ▶ This will be realised through the **VISEGRAD PROJECT 2018: HOW TO PREVENT SMEs FROM FAILURE** (Actions based on comparative analysis in Visegrad countries and Serbia)
- ▶ Ref. No. 21820267