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The Reasons for SME's Failure, Comparative Analysis and Research

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Abstract: This manuscript is presenting the preliminary results of research of the factors which are influencing the failure of SMEs. The manuscript 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. 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.

Keywords: SMEs, Failure of SMEs, Statistical data analysis

1 Introduction

In recent years, a great number of studies have focused on the success of SMEs, while only few studies were related to the reasons for the failure of SMEs and finding the factors affecting it. Pointing out these factors can provide entrepreneurs with critical information for improving their businesses by reducing the risk of failure and increase chances of success [1]. This is actually the attempt to help entrepreneurs to learn from somebody else mistakes. If we discover the most influential factors for the SMEs failure and in accordance develop the measuring scale, we can use it to define the potential optimization of the operations of any SMEs.

In previous research of the authors of this paper, scientific papers were analyzed with aim to discover all potential factors that influences on failures of SMEs [1]. All identified factors were subsequently grouped into two main groups: (1) individual and (2) non-individual. The non-individual factors were, also, divided into two groups: (2.1) internal and (2.2) external influences. Individual factors are concerned with the abilities and characteristics of entrepreneurs. Internal non-individual factors are describing the operations inside the SMEs, while external are dealing with the environment and the influences from outside the enterprise on its performances.

Based on above defined factors, the questionnaire was developed to be used as a measuring scale for rating the importance of each factor on SMEs failure. Although, the main measurement scale, for assessing the importance of individual and non-individual factors for SMEs failure, was based on those two main groups, the final analysis of the factors, presented in this paper, will also address their intersections. Meaning, the correlation among individual and non individual factors influencing the success and failure of the SMEs will give additional outlook on the possibility to search the reason for SMEs bad performances, based on parallel influence of both groups of factors.

For example, some of the characteristics of SMEs could depend on their internal non-individual factors, but at the same time on characteristics of their owners/managers. This way the mode of organization and the type of decision making (centralized or decentralized management) or internal business

communication; can be correlated to type of leadership (authoritarian, participative), business ethics of the owners/managers and his/her business ethics (social responsibility). This also gives additional novelty to the research presented in this manuscript, because in majority of previous researches authors were dealing with separated influences of those two groups of factors. The correlation of those two, and their joint influence, will be the new issue, addressed in this manuscript.

2 Research Methodology

The research objective of this paper is to understand the level at which the reasons of SMEs failure may be characterized by a set of elements marked by the entrepreneurs as the most significant, and which are in accordance with the wide range of data available in literature related to this topic. The listed elements of significance were grouped in several groups of research questions.

The methodology of the questionnaire for data collection was used in the conducted research. The questionnaire was developed according to the available existing literature and attempts of other researchers to create an appropriate instrument for the analysis and evaluation of SMEs failure [2-14].

The questionnaire consisted of two parts. The first part contained 20 control questions of a demographic character, describing the respondent and his/her entrepreneurial characteristics, presented in Table 1. The second part of the questionnaire included 41 questions describing the influencing factors for SMEs failure, divided into appropriate groups. Based on this questionnaire, the opinions of entrepreneurs on the importance of individual factors, related to the personal characteristics of the entrepreneurs for the analysis and assessment of the reasons of SMEs failure were reviewed (groups of questions: I1, I2, I3). Along with individual, also non – individual factors were assesses. The non individual factors were further classified in two subgroups: external – resulting from actions from the surroundings of the SMEs (groups of questions E1 and E2) and internal – resulting from the conditions within the SMEs operations (group of questions E3).

Based on a questionnaire defined in this way, the survey of entrepreneurs, suffered from the failure in the past, was conducted. The replies obtained were entered in a single database and the statistical processing of the data was then performed. As a result, certain elements of influence on factors affecting the SMEs failure – presented through questions in the questionnaire – were combined into final factor groups, while some were eliminated from further analysis. Then, using the appropriate statistical tools, analysis was conducted on potential interrelations between the reviewed factors of influence. In this way, based on the assumed correlations between certain groups of questions and their impact on key question

(Y), the hypothetical models for analyzing the connection between the level of the recovery from the previous failure and the overall assessment of the important factors were formed.

2.1 Sample and the Collection of Data

The survey of entrepreneurs, in order to collect data, was performed in enterprises in Serbia whose owners' suffered from failure in previous years, or at list, had changed their entrepreneurial activity. A total of 150 questionnaires were used for collecting their demographic descriptives and opinion on the influence of each of the defined factors. For collecting the data, questionnaires were used by researchers in direct "face to face" survey. Accordingly, large percentage of valid completed questionnaires was obtained – 130, which presents 86.6 %.A relatively high response rate was achieved owing to persistent, direct contact between the authors of this paper and the entrepreneurs who were asked to fill the questionnaire.

Detailed demographic indicators of the enterprises, who were included in this survey, as well as the entrepreneurs themselves, are presented in Table 1. Apart from demographic questions, the surveyed entrepreneurs responded to 42 questions with objective of obtaining their personal opinion on the importance of certain factors for failure of SMEs, which they have suffered from in the past. The respondents answered the questions through the gradation of the offered answers. The Likert scale was used for the gradation, where 1 represents the lowest significance (I absolutely disagree) while 5 represent the highest significance (I absolutely agree). Also, answers to a certain number of questions were of a dichotomous character (yes/no type).

3 Results and Discussions

In the following text, the results of the analysis, of data obtained using the questionnaire in order to confirm the initial hypothetical framework of the research, are presented. Data obtained using the questionnaire was entered into a database, which was then processed using the corresponding statistical analysis tools. The statistical analysis included the measurement of adequacy of the whole sample and the validation of the data structure. Then the analysis of the reliability of the opinion of the entrepreneurs on importance of individual and non – individual reasons for the SMEs failure, placed within the appropriate factor groups was performed, along with testing the initial hypothetical frameworks through the application of structural equations modeling. The statistical analysis of the collected data was performed using the software packages SPSS 18.0 and LISREL 8.80.

Table 1 presents the basic demographic features of the surveyed sample (entrepreneurs who changed their entrepreneurial activities or suffered from failure in the past).

Characteristics			*N*	%
Failed SMEs (*N*=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 *(N=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
Respondent (*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	<5	42	32.3

experience	5-10	32	24.6
	>5	56	43.1
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
Age in failure time	Top manager / director	27	36.5
	Middle management	11	14.9
	Operational level of management	20	27.0
	Employees	16	21.6
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

Table 1

Profiles of analyzed SMEs and respondents

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	130	100.0

Table 2

The answer to the key question Y - Please rate, in your opinion, the level on which you recovered from the failure (from 1-not at all to 5 completely) and

In addition, for those entrepreneurs who recovered from the failure, it was interesting to know the amount of time required. The results are presented in the table 3.

	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

Table 3

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

In accordance to the results presented in Tables 1-3, it is obvious that from the number of 130 entrepreneurs, 78 of them recovered from the previous failure. On the other hand, 85 entrepreneurs started their new business venture. This means that seven entrepreneurs started new business venture, even without recovery from the previous failure.

In order to assess which type of statistical analysis should be further used on the obtained data; correlation analysis between different factors as the reasons of SMEs failure was conducted. If considerable number of questions from the survey can be correlated among each other, with statistical significance, this is the clear signal that linear statistical analysis can be applied. The results of correlation analysis of paired questions from this survey are presented in Table 4. In this table, only the statistically significant correlations ($p<0.05$), and with coefficient of correlation $r>0.5$ are presented. Based on the results in Table 4, it can be concluded that 15 correlation pairs do have statistical significance, pointing to a

significant internal correlation between the listed factors, and thus the use of factor analysis in further research is justified [15, 16].

Evaluation of the internal consistence of the initial instruments for data collection was performed using the Cronbach alpha, Spearman–Brown and Ω tests [17-21].

According to these tests, values of a Cronbach α, Spearman–Brown and Ω coefficient higher than 0.70 represent a good option for modeling the questionnaire results within the reviewed population [21].

When conducting the above 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.

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**

I2Q3: Risk taking 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	.556**
I2Q5: Internal locus of control is the most important personal characteristic of entrepreneur for success of SMEs	I2Q6: Independence is the most important personal characteristic of entrepreneur for success of SMEs	.000	.652**
I3Q3: My motivation for SMEs startup was job satisfaction	I3Q4: My motivation for SMEs startup was self fulfillment	.000	.526**
E1aQ1: Political issues, as external factor, can have importance for SMEs operational problems.	E1aQ2: Economic issues, as external factor, can have importance for SMEs operational problems.	.000	.511**
E1bQ1: Technological issues, as external factor, can have importance for SMEs operational problems.	E1bQ2: Ecological issues, as external factor, can have importance for SMEs operational problems.	.000	.644**
E3Q2: Delay in fulfilling bank obligation, as internal factor, can have importance for SMEs problems.	E3Q7: The level of fixed assets free from any burden/inscription, as internal factor, can have importance for SMEs problems.	.000	.607**
E3Q3: Fall of motivation, as internal factor, can have importance for SMEs problems.	E3Q4: Delegation of responsibilities, as internal factor, can have importance for SMEs problems.	.000	.683**
E3Q7: The level of fixed assets free from any burden/inscription, as internal factor, can have importance for SMEs problems.	E3Q8: The level of clearing/barter transaction, as internal factor, can have importance for SMEs problems.	.000	.629**
E2aQ1: Transportation system is important infrastructural issue of the surrounding region of my SMEs which suffered from failure	E2aQ2: Supply of the electricity is important infrastructural issue of the surrounding region of my SMEs which suffered from failure	.000	.637**
D1: Number of employees in your SMEs that suffered from failure	D2: Number of employees in current SME	.000	.587**

Table 4

Internal correlations between factors influencing the SMEs failure

As the basis for subsequent construction of the structural model for this research, a good starting point for establishing connections and relations between the proposed groups can be based on the factor analysis of the remaining set of 34

variables, divided into the groups (I2, I3, E1, E2 and E3). The obtained results of factor analysis are presented in Table 5. Factor analysis is measuring the internal coexistence of the questions divided in group. If the factor analysis give the results of the internal consistence tests values above 0.7, than the questions of the questionnaire are well defined and structured. This is a clear signal that such questionnaire can be used for development of the final structural model [22].

According to the results of the factor analysis, presented in Table 5, following conclusions can be constructed: Largest positive values of factoring coefficients of the questions in group I2 (bold values in the table), are almost all located in the first grouping factor, with exception of the question I2Q7: „Education is the most important personal characteristic of entrepreneur for success of SMEs". This means that respondents subconsciously placed this question outside the frame of the group I2. Considering the group I3, five questions are inside the same factor, and two questions I3Q6: "My motivation for SMEs startup was employment creation" and I3Q7: "My motivation for SMEs startup was access to additional financial resources" are outside this scope. Considering the group E1, from 6 questions in this group, 3 are in one factor group and 3 in another. This means, that this group of questions should be divided in two separate subgroups E1a and E1b (Table 5). For the group E3, almost all questions remained in the same factor group, with exception of question E3Q4:"Delegation of responsibilities, as internal factor, can have importance for SMEs problems", which is outside this frame. Finally for the group E2, six questions are equally divided in two subgroups E2a and E2b (Table 5). Based on above observations, the Structural Equation Model (SEM), which can describe the influence of each of the individual and non/individual parameters on the level of recovery of entrepreneurs, can be developed. One example of SEM, which presents the influence of non-individual factors on the level of recovery, is presented in Figure 1.

	Component				
	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
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**
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

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
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

Table 5

The Component Matrix of the factor analysis

Extraction Method: Principal Component Analysis.

a. 5 components extracted.

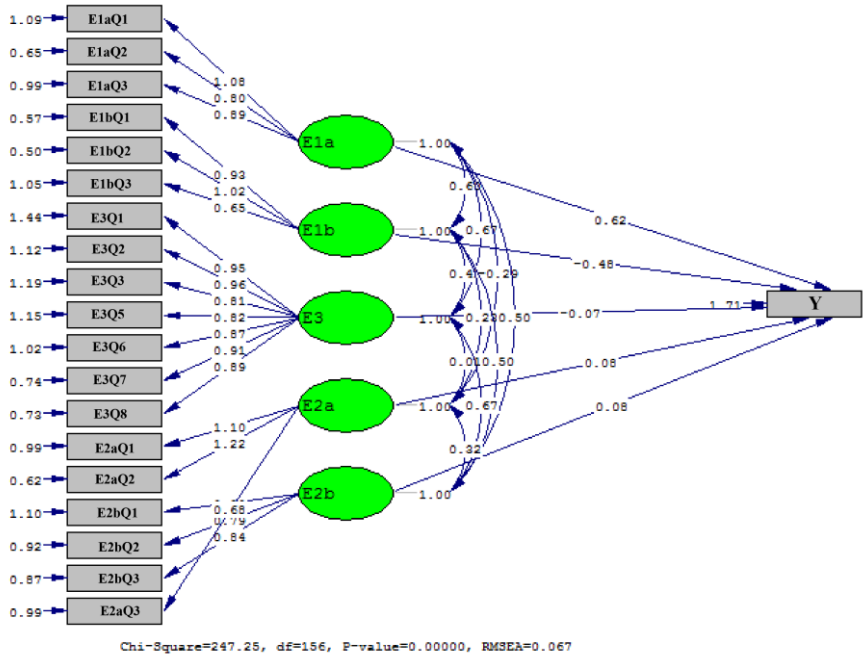

Figure 1

Structural Equation Model for influence on different non-individual factors on level of SMEs recovery from the failure

4 Conclusions

This manuscript presents the results of the joint research work of the group of authors from the International Resita Network for Entrepreneurship and Innovations. The subject of the research was the reasons for the SMEs failure. Based on the wide literature review initial measuring scale was developed, which was used to assess the opinion of the entrepreneurs who suffered from the failure in the past. The accuracy of the measuring scale was subsequently tested, using the adequate statistical tools. Obtained results are presented in this manuscript.

Based on the obtained results we can conclude that most of the entrepreneurs, who suffered from failure in their previous venture, decided to start again with new SMEs which are usually based on completely different scope of entrepreneurial activities. Actually 85 out of 130 entrepreneurs started new SMEs, from which 78 recovered from the failure at some level and seven, decided to start new venture even before financial recovery.

The correlation of some of the individual questions from all the groups was proven. This way, for example, entrepreneurs who believe that the most important personal characteristic of entrepreneur, which will lead to success of his/her SME, is self confidence, also stated that their motivation to become entrepreneurs was self fulfillment (question I2Q1 correlated with I3Q4, in Table4). Another interesting finding is that political issues are strongly connected with economic issues, as external factors which can cause SMEs operational problems. The strength of this connection is evident with coefficient of correlation equal to 0.511, between questions E1aQ1 and E1aQ2 in Table 4.

Based on the results of this research, it can also be concluded that there are lots of combination of influence of different factors, which caused the failure of the SMEs. Those factors are collected in three groups of internal factors I1, I2 and I3 and three groups of external factors (E1, E2 and E3). Grouping of those questions was based on the factor analysis, presented in Table 5.

The grouping of the variables can result with development of SEM describing the influence of each of the factors group on the level of recovery of SMEs. Just one example of such SEM is presented on Figure 1. The results in this figure, leads to following conclusions. For example, 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, in Figure 1.

Obtained results give the possibilities for further research on this topic, which will include development of the structural equation model (SEM) of all investigated items. The final outcome of this research will result with the measuring scale which will enable the measurement of the "health condition" of the existing SMEs, based on the historical reasons of failure of SMEs in the past. This will give the opportunities to SMEs owners, to learn from their own and from somebody else mistakes in the past, and to keep their enterprises from failure, by identifying the most acute factors which are challenging their business, using the developed measuring scale.

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