



Article

# The Symbiotic Mutualism between Co-Creation and Entrepreneurship

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Abstract: In this manuscript, the authors aim to explore firstly the association between entrepreneurial mindset and co-creation experience, secondly the association between co-creation experience and entrepreneurial intentions, and thirdly the association between entrepreneurial mindset and entrepreneurial intentions within the sustainability context. In this paper, the authors present the results of the pilot study. Primary data were collected from 500 university students from China, Georgia, Poland, Romania, and Sri Lanka by using a convenient sampling technique, and a literature review was the primary method of the concept development. The authors selected the above-mentioned countries to collect primary data by using a convenient sampling technique based on accessibility; they also visited all analysed countries in order to conduct the pilot survey personally. Descriptive statistics and the Spearman's rank correlation coefficient were applied as primary statistical methods. The findings reveal that there is a very strong association between co-creation experience and entrepreneurial intentions, a very weak negative association between entrepreneurial mindset and co-creation experience, and, surprisingly, a weak association between entrepreneurial mindset and entrepreneurial intentions. The added value of the conducted pilot research involves filling in a gap regarding the relationship between experience and the subjective norm. In the presented pilot research, co-creation experience was compared with not only entrepreneurial mindset but with entrepreneurial intentions as well. An additional value of this exploratory research is compiling an international comparison. The main contribution of this pilot study is examining the symbiotic mutualism between co-creation and entrepreneurship. Among many platforms of associations, the following can be differentiated: creativity, innovativeness, openness, engagement, awareness, motivation, trust (level of social capital), and recognizing the significance of social and sustainable development objectives. Due to the small sample size, the results cannot be generalised. Results refer only to the respondents. However, the findings of the pilot study are the basis for further research studies on symbiotic mutualism between entrepreneurship and co-creation.

**Keywords:** entrepreneurship; entrepreneurial attitude; entrepreneurial intentions; co-creation; sustainability



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# 1. Introduction

Co-creation and entrepreneurship are concepts that in recent decades have gained significant importance not only for companies but also their customers as well as entire economies, which has been noted by international organizations [1]. Even though both areas are extremely popular, there are still many issues that require explanation and detailed understanding, both in the area of co-creation and the relationship between entrepreneurial attitudes and intentions of conducting business activity [2–5]. According to the literature review done by the authors, there are not many studies exploring the associations between co-creation and entrepreneurship.

The phenomena of entrepreneurship and co-creation gained popularity and significance along with market growth and changes in company operations. Dynamic development of new technologies and changes related to the Fourth Revolution [6], as well as increasingly stronger growth of sustainable development concept [7,8], had a particularly strong impact. Since both of these concepts are linked to management, it is interesting to verify whether co-creation experience is associated with entrepreneurial attitudes and entrepreneurial intentions and consequently whether it may additionally constitute a major impulse for developing sustainable activities. Such a solution to the problem may be a source of information as to what goals guide an individual willing to start his or her own business or whether openness to co-creation is a trait displayed by an entrepreneurial individual. The comparison is made on purpose since openness to co-creation also means openness to the fulfilment of sustainable social objectives. Therefore, an individual willing to start their business activity and being open to co-creation might also be interested in fulfilment of sustainable development objectives.

Interest in co-creation and entrepreneurship aligns with the beginning of the experience economy proposed by Pine and Gilmore [9–11]. The theory, further developed from the perspective of co-creating customer experience [12,13], changed its focus to customer's interaction with other entities being part of a broader ecosystem, while at the same time recognizing the customer's role in experience co-creation [14].

When observing companies' activities, it becomes noticeable that increasingly more enterprises concentrate not only on implementing entrepreneurial strategies but also on openness, which means that an enterprise creates value for all of its stakeholders (including its customers) by engaging them in all of its activities [15]. This has a significant impact on the values presented by an enterprise, so that the values correspond to stakeholders' interests [16–19]. Such an activity may cause enterprises' operations to be of a dichotomous nature, since on the one hand, they are strategic, but on the other hand, they implement strategies focused on stakeholders [16,20]. Consequently, when forming relationships with stakeholders, enterprises create mutual benefits, and they are not, as is assumed in the classical approach to entrepreneurship, geared towards the fulfilment of their own goals [21].

International co-operation, in which parties create common values in order to improve strategic effectiveness, constitutes a particular dimension of entrepreneurial development based on the co-creation principle as well as the fulfilment of mutually beneficial goals [16,22–31]. The concept is linked to B2B co-operation; however, more and more often it is also linked to the creation of common values with a final customer.

Entrepreneurship is regarded as a multifaceted phenomenon [32–34]. The research described in this manuscript also refers to the theory of entrepreneurial intentionality [35]. According to the theory, entrepreneurial intentions constitute an internal factor sustaining and supporting entrepreneurial activities. In turn, the theory of planned behaviour emphasises that intentions depend on either a positive or negative attitude to a given behaviour, the perceived degree of activity difficulty, or the perception of the possibility of obtaining assistance from others [36,37]. Furthermore, it is worth referring to the entrepreneurial event model, according to which the choice of an entrepreneurial action is dependent on how its feasibility and desirability are perceived and how great the inclination to act is [38].

What is more, entrepreneurship plays a special role in the economic and social development of a country. Linking entrepreneurial attitudes with sustainable activities has been demonstrated in studies conducted among small enterprises. The studies showed that traits such as trust and openness expressed through transparency, unlimited access to knowledge and information, and joint or partnership-based management and decision making are traits essential for the fulfilment of common objectives, also including sustainable objectives [39]. Co-creation may also be interpreted as a creative process (building), whereas entrepreneurship makes it possible for the process to empirically test the usefulness of the created solutions. In this context, the study of associations between openness and co-creation and the possessed entrepreneurial mindset will have an impact on the

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profitability of an enterprise and, more importantly, on the sustainable development of such enterprises. Entrepreneurial mindset can also influence the creation of a business model by properly defining resource structure, transactive structure, and value structure [40].

Co-creation is recognized as a new paradigm of engaging customers in co-operation with an enterprise [41]. Engaged customers demonstrate greater awareness and knowledge and consequently more responsible choices, reduced consumption, and a sense of responsibility for the environment [41,42]. Customers become co-creators of a business [43], while their sense of responsibility and driving force will stimulate and reveal their entrepreneurial attitudes. Co-creation experience is defined as a set of psycho-cognitive feelings regarding empirical benefits of involvement in co-creation [44]. Additionally, the process of co-creation fosters creative thinking, since taking advantage of various experiences of stakeholders requires formulating the best possible solutions to an existing problem [45]. Thus, creativity is yet another common platform for future research on the relationship between entrepreneurship and co-creation.

Common practices constitute another significant impulse for value co-creation, yet they need to feature specific entrepreneurial attitudes. Such actions are called 'symbiotic mutualism'. The term means the existence of multiple platforms of interaction, in this case, between entrepreneurship and co-creation. It is those interactions that create added value [46]. Research emphasised that enterprises ought to define customers' engagement through four areas of interactions, namely: involvement, interaction, intimacy, and influence. Every one of these activities will affect customers' attitudes and the strength of their engagement in enterprise operations. At the same time, they may be measured both for online and offline activities [47].

In the case of co-creation, changes in the customer's role from a recipient to a co-creator were of significant importance [13,41]. Since a contemporary consumer is aware, educated, self-assured, and seeks new experiences [9,48], it is interesting to link openness to co-operation with inner attitudes of entrepreneurship, defining a profile of an entrepreneurial individual. The diamond of internal determinants of entrepreneurial attitude consists of five complementary areas described in Figure 1.

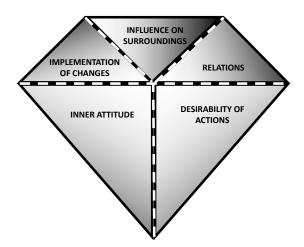


Figure 1. Diamond of internal determinants of entrepreneurial attitude. Source: [49].

Each area comprises a set of traits that facilitate functioning in a given area. At the same time, not only should the broad scope of each of the areas be stressed, but so should the significance of all the five areas, as well as their mutual merging and the possibility of shaping selected features related to widely understood entrepreneurship [49]. Thus, the development of an entrepreneurial mindset can focus on different skills such as negotiation, problem solving, business planning, or financial literacy [50]. As a result of linking the proposed concept with co-creation, we deal not only with a customer but also an individual who engages in the goals and tasks realized by an enterprise [32,41–43]. Moreover, the entrepreneurial mindset is critical to the further development of positive

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entrepreneurial effects [51]. However, the concept of an entrepreneurial mindset is defined from different perspectives. One of them described the triad of entrepreneurial mindset, in which three aspects are taken into consideration—the entrepreneurial cognitive aspect, the entrepreneurial behavioural aspect, and the entrepreneurial emotional aspect. According to this model, to deeply analyse entrepreneurial mindset, it is necessary to know how people think, feel, and act in relation to entrepreneurship [52].

It additionally needs to be stressed that if an enterprise engages its customers and other entities in a common activity, it means that it implements social objectives, which in turn are a part of sustainable activities. Therefore, by fulfilling its objectives, co-creation is combined with entrepreneurship [53]. Nevertheless, it must be noted that entrepreneurs engaged in sustainable development may feel the paradoxes related to co-dependence and conflicts between social, environmental, and economic objectives [53]. However, if all enterprise's efforts are focused on stakeholders' needs (including customers' needs), then the realized tasks will create a sustainable world [16].

Research indicates the existence of an association between co-creation and sustainable development, since co-creation is also defined as a component of open innovation [54–59]. A special connection between enterprise and a co-operating customer can be observed in the virtual environment, where open platforms such as blogs [60] or YouTube channels are created, enabling content co-creation [54,56,61–67]. In a non-virtual environment, services are most often co-created, e.g., in the tourism sector.

Even though entrepreneurship and co-creation are the subjects of multiple analyses, few studies have been conducted with the aim of verifying the association between experience and subjective norms (entrepreneurial mindset) [68,69]. Therefore, the presented pilot research fills in that gap, at the same time taking into account three variables: co-creation experience, entrepreneurial mindset, and entrepreneurial intentions. The international scope of the research constitutes an additional value since the study was conducted in China, Georgia, Poland, Romania, and Sri Lanka. The main contribution of this pilot study is the examination of the symbiotic mutualism between co-creation and entrepreneurship. Among many platforms of associations, the following can be differentiated: creativity, innovativeness, openness, engagement, awareness, motivation, trust (level of social capital), and recognizing the significance of social and sustainable development objectives. Therefore, the primary aim of the paper is to determine the relationship between co-creation experience and specific entrepreneurial mindset. The secondary aim of the paper is to identify respondents' entrepreneurial intentions countrywide in relation to their experience in co-creation.

The obtained research results show that there is a very strong positive association between co-creation experience and entrepreneurial intentions, a very weak negative association between entrepreneurial mindset and co-creation experience, and a weak positive association between entrepreneurial mindset and entrepreneurial intentions.

This manuscript is organized as follows. Section 2 presents the methodology and characteristics of the sample. Section 3 shows the main results. Section 4 provides the discussion of the findings, and lastly, Section 5 demonstrates the conclusions as well as limitations of the study and directions for future research.

#### 2. Materials and Methods

The aim of the described pilot study was to gather primary data and analyse them in accordance with the research objectives in order to draw conclusions. The method of a field survey was applied in order to gather primary data from students coming from China, Georgia, Poland, Romania, and Sri Lanka. The authors selected the above-mentioned countries based on accessibility and convenience. Moreover, the authors visited all analysed countries in order to conduct the survey personally. A structured survey questionnaire served as a research tool. Qualitative variables were mostly used in the research questionnaire, which comprised nominal and ordinal scales. The basic measurements applied in the study, apart from percentage analysis, involved a non-parametric measurement called

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the Spearman's rank correlation coefficient. The pilot study was conducted from June to December 2016 with 500 respondents and a response rate of 100%. Each country was represented by 100 management students. The authors chose management students because they have a very high potentiality to become entrepreneurs and they have a high level of exposure to co-create with the existing business organizations. The authors are aware of the fact that all stakeholders ought to participate in the process of co-creation; however, the described pilot study concentrated on finding the association between possessing an entrepreneurial mindset and the co-creation experience. Furthermore, the pilot study enabled authors to discover similarities and differences between the analysed countries within the scope of entrepreneurial intentions and co-creation experience. The information may constitute an answer to a question of how entrepreneurial attitudes ought to be shaped while simultaneously taking into account such traits as trust and openness to co-operation with entities from the environment, including co-creation. It is important to gather data not only form companies but also from customers in order to better understand the concept of co-creation [57].

In order to fulfil the primary aim of the study, a conceptual framework (CF) was created (Figure 2).

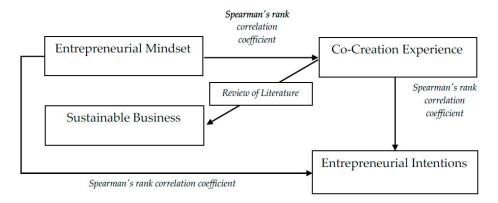


Figure 2. Conceptual framework. Source: own study.

According to the CF, the research objective was to examine three associations—between having an entrepreneurial mindset and experience in co-creation, between having an experience in co-creation and entrepreneurial intentions, and finally, between having an entrepreneurial mindset and entrepreneurial intentions.

The analysis consisted of two streams based on the nature of primary data. Nominal data were used for the qualitative analysis, and ratio data were used for the quantitative analysis. The entire cross-country analysis of this pilot study was based on the qualitative data, and the Spearman's rank correlation analysis was based on the quantitative data.

Considering the social and demographic characteristics of the sample, it is worth stressing that mostly women participated in the study, and they constituted the largest proportion of the sample in China (83%) and the smallest one in Sri Lanka (55%). Another feature differentiating the group was their place of residence. In Georgia, 89% of the respondents lived in urban areas, in Poland 76%, in China 64%, in Sri Lanka 60%, while in Romania 38%. Owing to the specificity of the research group, the smallest differences occur if the respondents' age is analysed. In Poland and Sri Lanka, the average age of respondents was 23, while in China, Georgia, and Romania, it was 22. It is further worth stressing that the respondents from Romania and Sri Lanka largely came from families that did not have any entrepreneurial traditions (72% and 64%, respectively), whereas in Georgia, that percentage was 28%. A more detailed profile of the average student participating in the study was described in a paper analysing students' engagements in the process of co-creation [70].

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#### 3. Results

Based on the field survey data, in this section of the manuscript, the authors refer to all the predetermined variables, and their association aligns with the conceptual framework of the study. Furthermore, the results constitute an opportunity for understanding countrywise differences and similarities in respondents' co-creation experience and their perception of having an entrepreneurial mindset (Table 1). Due to the small sample size, the results cannot be generalised. Results refer only to the respondents.

**Table 1.** Specific entrepreneurial mindset and co-creation experience.

		Specific Entrepreneurial Mindset				
			Yes	No	I Don't Know	Total
Co-creation Experience	China	Yes	3	3	6	12
		No	25	39	24	88
	Georgia	Yes	26	4	5	35
		No	40	8	17	65
	Poland	Yes	4	2	0	6
		No	69	18	7	94
	Romania	Yes	19	0	4	23
		No	31	15	31	77
	Sri Lanka	Yes	26	0	0	26
		No	41	20	13	74
			284	109	107	500

Source: Own calculation based on conducted research—Field Data 2016.

Table 1 illustrates a summary of the countrywide analysis of the respondents identifying themselves as entrepreneurial individuals and their real-life co-creation experience. The analysis of the data presented in Table 1 demonstrates that there are few respondents who have got experience in co-creation and who at the same time described themselves as entrepreneurial individuals, particularly in Poland and in China. The finding arises from the fact that the activity defined as co-creation is generally not yet widely spread (low number of responses indicating any experience in that area). Thus, further study of that subject matter and education in what co-creation is gains an even greater significance. If the respondents from the remaining countries (Georgia, Romania, and Sri Lanka) had any experience in co-creation, they largely described themselves as people of entrepreneurial mindset. Thus, the authors decided it was important to verify whether there exists a correlation between one's perception as an entrepreneurial person and having experience in co-creation; the results are presented in Table 2.

Table 2. The association between having an entrepreneurial mindset and co-creation experience.

The Spearman's Rank Correlation Coefficient—Interpretation						
Entrepreneurial Mindset and Co-creation Experience	-0.1	Very Weak Negative Association				
Source: Own calculation based on conducted research—Field Data 2016						

According to Table 2, the Spearman's rank correlation coefficient shows that there is a very weak negative association between having an entrepreneurial mindset and co-creation experience of the respondents. On those grounds, it can be concluded that possessing an entrepreneurial mindset shows no or very weak association (and if so, then in a negative manner) with gaining experience through co-creation.

Therefore, the authors decided to examine two other traits—experience in co-creation and entrepreneurial intentions (Tables 3 and 4). Table 3 illustrates the summary of the countrywide analysis of respondents' plans to start their own business and their real-life co-creation experience.

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**Table 3.** Entrepreneurial intentions and co-creation experience.

		Do You Plan to Open Your Own Business?				
			Yes	No	I Don't Know	Total
Co-creation Experience	China	Yes	4	2	6	12
		No	27	36	25	88
	Georgia	Yes	26	2	7	35
		No	51	4	10	65
	Poland	Yes	4	1	1	6
		No	56	15	23	94
	Romania	Yes	18	0	5	23
		No	48	9	20	77
	Sri Lanka	Yes	24	1	1	26
		No	43	30	1	74
			301	100	99	500

Source: Own calculation based on conducted research—Field Data 2016.

**Table 4.** The association between entrepreneurial intentions and co-creation experience.

The Spearman's Rank Correlation Coefficient—Interpretation					
Co-creation Experience and Entrepreneurial Intentions	0.9	Very Strong Association			

Source: Own calculation based on conducted research—Field Data 2016.

According to the data demonstrated in Table 3, the number of respondents who had entrepreneurial intentions is greater than the number of those who perceived themselves as individuals of an entrepreneurial mindset. It is worth stressing that this difference is chiefly noticeable with regard to those respondents who had no experience in co-creation. In Georgia and Romania, respondents more often had plans of starting their own businesses than defining themselves as entrepreneurial individuals, while simultaneously they emphasised their lack of experience in co-creation.

According to Table 4, the Spearman's rank correlation coefficient shows that there is a very strong positive association between co-creation experience and entrepreneurial intentions of the respondents. This result demonstrates that entrepreneurial intentions are far more strongly associated with having experience in co-creation than the perception of oneself as an individual of entrepreneurial mindset. Taking all the gathered results into account, the authors resolved to verify the occurrence of an association between entrepreneurial mindset and entrepreneurial intentions (Table 5).

Table 5. The association between specific entrepreneurial mindset and entrepreneurial intentions.

The Spearman's Rank Correlation Coefficient—Interpretation						
Entrepreneurial Mindset and Entrepreneurial Intentions	0.3	Weak Association				
Source: Own calculation based on conducted research—Field Data 2016						

The Spearman's rank correlation coefficient demonstrates that there is a weak positive association between having an entrepreneurial mindset and entrepreneurial intentions of the respondents. That result may indicate that a person who defines oneself as an entrepreneurial individual may not necessarily be planning to start their own business. Therefore, it is possible to confirm the assumption that entrepreneurship is manifested in a multitude of ways, not only in the conduct of business activity. The obtained results confirm that having an entrepreneurial mindset does not necessarily translate to the need of owning a business.

## 4. Discussion

Within the scope of the undertaken discussion, conclusions refer to the existence of an association between three of the examined variables—co-creation experience, entrepreneurial mindset, and entrepreneurial intentions. The fundamental conclusion that

can be drawn from the conducted pilot study is the existence of a positive association between entrepreneurial intentions and co-creation experience. Thus, it can be claimed that if individual people wanted to conduct their own business in the future, they would be willing to gain experience or be open to cooperation with companies, be it through co-creation. The result finds further confirmation in the findings of other studies on the basis of which a hypothesis was confirmed, stating that a person's actual inclination to start their own enterprise is often revealed only after gaining the experience contributing to the achievement of business success [71]. In turn, Gasse and Tremblay [72] pointed out the association of such inner characteristics as gender, age, place of residence, and the cycle and field of study with entrepreneurial intentions.

One of the major conclusions that can be drawn from the conducted pilot research is that positive self-evaluation with respect to possessing an entrepreneurial mindset does not always translate into undertaking initiative, including participation in the process of co-creation. Lack of association or very weak negative association between experience in co-creation and entrepreneurial mindset may in turn arise from the fact that entrepreneurship is demonstrated in those people in a multitude of ways, e.g., through broadly understood resourcefulness, and not through the need for co-operation with businesses or running a business in the future. The fact that a given person considers oneself to be entrepreneurial does not mean that at the same time that person undertakes entrepreneurial actions, including co-creation. It is worth emphasising that people who indicated not possessing an entrepreneurial mindset have never participated in the process of co-creation. Therefore, it can be concluded that both of the examined issues (co-creation and entrepreneurship) do not need to constitute the focus of interest to all individuals but only to select ones.

Co-creation attitude in combination with entrepreneurship may also be conditional upon the degree of trust and social capital. The literature on the subject emphasises the existence of a positive association between the social capital and the functioning of an organization [73]. On the other hand, behaviour indicating mistrust suppresses the creation of an entrepreneurial climate [74]. Individuals who lack trust will demonstrate a mindset closed off to knowledge sharing. However, it is worth noting that a mindset open to acquiring knowledge and experience from other firms may occur at the same time. Such actions may be associated with functioning in a highly competitive market, operating on the principles of competition rather than co-operation. Therefore, finding values common to an enterprise and a customer may constitute a further significant factor of openness to the fulfilment of social objectives, which will be strongly associated with sustainability [50]. On the grounds of the conducted pilot research, it needs to be emphasised how important the promotion of an entrepreneurial mindset is, geared not only towards earning profits but also towards sustainable development. The nature of the finding is emphasised by the fact that professed values and social norms have a positive impact on sustainable entrepreneurial intentions [75].

The results of the described pilot research indicating a high percentage of people unsure of their own plans are also interesting. On average, every fifth respondent was not only unsure of the direction in which they should shape their career, but they were also unable to define whether they possess an entrepreneurial mindset or not. Such individuals did not have precisely defined professional preferences, but they also did not participate in co-creation. Such a group of undecided individuals is important because it also indicates the existence of a gap in the system of education. Assuming that entrepreneurship is one of the key competences, it would be advisable to popularize knowledge and increase students' awareness (in that regard). Research conducted, for example, in China demonstrates that support of entrepreneurship provided by universities has a positive impact on entrepreneurial intentions [76].

From the pilot research, it also arises that young people see themselves as being entrepreneurial, but they are not always open to co-operation with firms. Thus, the issue related to apparent or imagined entrepreneurship still needs to be considered. Positive self-assessment of having an entrepreneurial mindset does not always need to mean that

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we indeed possess such a mindset. Therefore, it would be worth verifying how big of a gap exists between those who perceive themselves as entrepreneurial individuals and those among whom entrepreneurial traits find a reflection in their actions. A strong limitation of openness to co-creation may also involve, next to mistrust, the perception of barriers to entrepreneurship, which points to another important line of research.

### 5. Conclusions

In this paper, the authors aimed to explore three associations—between co-creation experience and entrepreneurial mindset (very weak negative association), between entrepreneurial intentions and co-creation experience (very strong positive association), and between entrepreneurial mindset and entrepreneurial intentions (weak positive association). The analysis was conducted in five countries—China, Georgia, Poland, Romania, and Sri Lanka. The main contribution of this pilot study is examining the symbiotic mutualism of co-creation and entrepreneurship. The authors differentiated eight platforms of associations between the examined properties. Those platforms include creativity, innovativeness, openness, engagement, awareness, motivation, trust (level of social capital), and recognizing the significance of social and sustainable objectives.

However, the conducted study has its limitations. The most important of these is the size of the research sample, which is not sufficient for the generalization of the conclusions. However, this pilot study constitutes a sufficient basis for further research. Within the scope of future research, it would be worth verifying the existence of associations between entrepreneurship and co-creation on all of the eight specified platforms. The lines of future study may also include identifying the associations between the perception of entrepreneurial barriers and openness to co-creation. The obtained research results also enable determining an interesting research group—undecided individuals who are unable to define whether they possess an entrepreneurial mindset, who also have no precise professional goals. With regard to such individual's entrepreneurship, education takes on a particular significance, since it could help them decide on the direction of a professional career.

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