

Article

# Personality Traits and Business Environment for Entrepreneurial Motivation

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**Abstract:** The influences of personality traits and business barriers on entrepreneurial behaviour have been studied by numerous researchers. However, the mechanisms by which changes in institutional contexts and personality traits affect individuals' entrepreneurial motivation have not received enough attention from researchers. This paper aims to fill this gap in the literature by examining the joint effects of personality traits and business barriers on one's motivation to engage in entrepreneurial activity. A structured questionnaire was developed to capture the above linkages. To measure the latent variables, factor and reliability analyses were utilised. To examine the relationships, a regression analysis was performed on a unique dataset of respondents from three counties: Czechia, Hungary, and Serbia. The results show that personality traits positively influence motivation towards entrepreneurship. Furthermore, external barriers (ecological and technological issues), and infrastructure factors positively affect entrepreneurial motivation. From an academic viewpoint, personality traits and motivation to engage in entrepreneurial activity can be nourished by education, highlighting the role of universities in this regard. Our paper's findings should trigger the interest of policymakers who aim to introduce new instruments or change the existing ones (designing policies) to boost entrepreneurship.

**Keywords:** entrepreneurship; entrepreneurial motivation; personality traits; business barriers; infrastructure; Czechia; Hungary; Serbia



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## 1. Introduction

### 1.1. Research Background and Problem Statement

Entrepreneurship has been seen as a contributory factor and an economic engine across every country, since it helps to create new employment and boosts labour market productivity and competitiveness (Murnieks et al. 2020; Dvorský et al. 2019). Everyday entrepreneurship is being given more and more importance across developed and developing economies. Traditionally, entrepreneurship research has followed two distinct courses. The first course consists of studies that look at the personal characteristics of entrepreneurs to discover what sets them apart from the wider public. Gartner (2017) referred to this as the “traits” method, which discovered that some psychological characteristics had a strong influence on entrepreneurial motivation. The second path focuses on the external (environmental/business) conditions that seem to generate variations in the number of business start-ups over time (Taormina and Lao 2007; Çera et al. 2021a). In previous studies, researchers usually studied only personality traits' influence on motivation, or, on the other hand, only the business environment's impact on it. Shane et al. (2003) suggested that the one-sided approach of the research approached a “dead end” and it was important for scholars to consider collective impact on motivation. This paper follows the suggested path and analyses the joint effect of personality traits and business barriers on a person's

motivation to engage in entrepreneurial activities. Rather than taking into account personal characteristics in isolation, the study is able to determine how specific personality traits and business barriers combine to achieve a high (or low) degree of entrepreneurial motivation.

Over the past twenty years, the personality debate in entrepreneurship has re-emerged, with many criticising the original trait research. The main point of the criticism was that personality traits are not adapted specifically to entrepreneurs and are more generic (Munir et al. 2019). The problem arises when there is a necessity of measuring many personality traits and linkages among the constructs appear to be weak (Şahin et al. 2019). As a result, scholars agree that personality traits are crucial in the process of entrepreneurial decisions or actions. This study considers personality traits including independence, education, locus of control, risk taking, creativity, need for achievement, and self-confidence as determinant factors influencing entrepreneur motivation. The decision to focus on these personal characteristics was inspired by prior studies (Frese 2009; Adler et al. 1992), which argue that these traits are human capital attributes affecting motivation. Despite their alleged significance, these personality traits have received very little attention from researchers in relation to their impact on entrepreneurial motivation among entrepreneurs across the globe. In order to assist the government's efforts to establish institutional arrangements and nurture entrepreneurship among residents, to help enable the launch of small businesses, it is important to identify which factors may motivate people to become entrepreneurs in the first place. This study contributes to a greater understanding of the key personality traits that influence entrepreneurial motivation.

As entrepreneurship has been a focus of academic research, several experts and academics have carried out research and concluded that business barriers have a substantial impact on entrepreneurial motivation. According to Ahmad and Xavier (2012), the business environment is a collection of elements that influence entrepreneurship motivation and activity. According to Bernhofer and Li (2014), business barriers include cultural, economic, and political conditions, and people have various incentives in different situations. The author argues that business barriers can be demotivational toward engagement in entrepreneurship. Turulja et al. (2020) defined business barriers as the total of the legal and institutional barriers, market barriers, financial barriers, and entrepreneurial infrastructure, among other things. He mentioned that different environments influence motivation and barriers can decrease the motivation to be involved in start-ups. Overall, the previous studies had less focus on elements such as legislative, ecological, and technological issues in the context of entrepreneurial motivation. Hence, we added these aspects and the other three elements of business barriers, political, economic, and social factors, to the dimensions of this study.

While there is a growing body of literature on barriers to entrepreneurs, less attention is paid to business infrastructure and how it affects entrepreneurial motivation. Gnyawali and Fogel (2017) divided the business environment into three parts: (a) general environmental conditions for entrepreneurship; (b) descriptive studies of the environmental conditions of a particular country or region; and (c) the role of public policy in shaping entrepreneurial environments. Authors considered business infrastructure as an element of general environmental conditions and the joint effect of all the above factors on entrepreneurial motivation was studied. There is a lack of research analysing the impact of business infrastructure, as a separate variable, on entrepreneur motivation. Hence, this paper is intended to fill this gap.

### *1.2. Aim and Structure of the Paper*

The goal of this research is to enhance both theory and practice. More research is needed on person-adapted traits in the field of entrepreneurship, as well as the impact of business barriers and infrastructure, according to several studies. The joint impact on motivation is the focus of the current study, which expands on one-sided approach research in the field of entrepreneurship. Making such selections provides individuals with a novel perspective and new understanding. Additionally, this study may have practical applications, notably for entrepreneurship education. While some traits are challenging

to alter, prior research shows examples of interventions that can quickly affect traits and, subsequently, motivation.

The remaining parts of this paper are as follows. After the introduction, it continues with a literature review of entrepreneurial intention, motivation, and behaviour, followed by personality traits and intention and finally business environment and intention. Then, it continues with the methods and procedures including unit of analysis and data collection, variable measurement, and methods. The next section consists of results, followed by a discussion. Finally, the conclusion is the last section, which discusses research findings and highlights recommendations and contributions of this paper.

## 2. Literature Review

### 2.1. Theoretical Background

Various models have been devised and utilized by various researchers to identify a person's entrepreneurial motivations. Bird (1988) developed a model, entrepreneurial intentionality, according to which a person's inclinations to entrepreneurship are based primarily on both environmental and personal factors. Environmental factors include political, economic, social, ecological, legislative, and technological elements that can influence one's mindset. The study is also based on the institutional theory, which states that individuals' and organizations' behaviours are shaped by the institutional context (North 1990). Regarding personal factors, they can influence a person's motivation about starting a new business and being involved in entrepreneurship. Boyd and Vozikis (1994) further developed the above-mentioned theory and added self-efficiency to the analyses as a factor impacting entrepreneurial intention, behaviour, and motivation.

Ajzen (1991) developed a model, the theory of planned behaviour (TPB), and he argues that a person's behaviour is based on voluntary control and explicit planning. TPB stresses that intentions are immediate provenances of action, and higher intentions can determine the possibility of accomplishing the behaviour (Ajzen 1991).

### 2.2. Entrepreneurial Intention, Motivation, and Behaviour

There is a need to distinguish three key concepts that at first sight seem to have close meaning, but actually differ in context: entrepreneurial intention, entrepreneurial motivation, and entrepreneurial behaviour. Entrepreneurial intention expresses a person's desire to pursue a profession as an entrepreneur (Dana et al. 2021; Çera and Çera 2020). People with entrepreneurial inclinations intend to take measured risks, accumulate necessary resources, and launch their businesses (Alshebami 2022). Entrepreneurial intent motivates entrepreneurial behaviour (Karabulut 2016). According to Bird and West (1998) intention is an attitude of mind that leads a person's intents and activities to entrepreneurship. Liñán et al. (2010) explain that intention is a group's endeavour to behave entrepreneurially. Hmieleski and Corbett (2006) argue that an entrepreneurial intention is an intention to achieve high growth in any type of business. The intention can be considered as originating in free will, and leads a person's perception, focus, experimentation with, and behaviour towards his/her objective (Bird and West 1998). People with a higher level of self-efficiency tend to challenge themselves with more complicated tasks and achieve higher goals; thus, self-efficiency can be found as a trigger for entrepreneurial intention (Cacciotti et al. 2020; García-Cabrera et al. 2020; Çera et al. 2021b; Şahin et al. 2019).

Similarly, it can be argued that people with high entrepreneurial motivation are more likely to become entrepreneurs (Estay et al. 2013). Entrepreneurial motivations are defined as urges or the proclivity to arrange, manage, and dominate institutions, people, or ideas as quickly and autonomously as feasible (Solesvik 2013). Different theories suggest different characteristics to be motivational to engage in entrepreneurship. According to Segal et al. (2005), motivation is defined as a combination of expectation, usefulness, and polarity. Economically based models argue that risk tolerance is the key factor; people with higher risk tolerance are willing to be self-employed in the future (Douglas and Shepherd 2000). Hessels et al. (2008) suggested that motivation is highly dependent on

the country's specificity. Therefore, the latter study calls on researchers who try to better understand the determinants of an individual's motivation to become an entrepreneur to consider environmental factors (business barriers) in their analysis. This paper follows this suggestion in examining influencing factors of entrepreneurial motivation.

Different from entrepreneurial intention and motivation, entrepreneurial behaviour is defined as a planned action by different individuals (Ajzen 1985). As stated before, entrepreneurial intention or motivation can motivate behaviour (Alshebami et al. 2022). Other theories also suggest that these factors can be predictors of behaviour (O'Gorman 2019; Venesaar et al. 2021). According to Krueger (2017), three main constructs enable the individual to express identifiable entrepreneurial behaviour. It is also based on certain beliefs and requirements that will drive the intention of a person to acquire skills and experience in a certain field, so this person will be able to engage in entrepreneurial processes (Kirkley 2016).

### 2.3. Personality Traits and Entrepreneurial Motivation

Various studies indicate that entrepreneurs have personality differences compared to managers (Bazkiaei et al. 2020; Shane and Nicolaou 2013). This is why it is important to analyse the relationship between personality traits and motivation. Some behavioural traits might lead to individuals perceiving entrepreneurship as a more gratifying practice, and therefore they may persist in establishing a new firm and becoming entrepreneurs (Segal et al. 2005). Bird (1988) created the model, which states that motivations can be influenced by contextual and personal characteristics. The author mentions that personality traits are the factors that can trigger starting a new business. Other authors further developed the previous study by Bird (1988). The novelty brought by Boyd and Vozikis (1994) was that they added a self-efficiency factor to the analyses and demonstrated its importance in entrepreneurial motivation and behaviour. In this paper, we tried to cover as many dimensions of personality traits as possible: independence, being educated, internal locus of control, risk taking, creativity, need for achievement, and self-confidence. Below, each of them is described.

**Independence.** The desire for independence is critical to entrepreneurial ambition. Carter et al. (2003) define independence as a person's desire for freedom, autonomy, and flexibility in how they spend their time. Entrepreneurs are typically classified as self-starters and, accordingly, their level of independence is higher compared to other people (Raza et al. 2018).

**Being educated.** Entrepreneurs tend to be independent, risk-takers, creative, and confident, but none of these traits will work if they lack education (Mónico et al. 2021). According to Solesvik (2013), there are three types of education that entrepreneurs need to acquire. The first one is academic, where people acquire basic knowledge; the second is vocational education, which refers to skills on how to secure a job and earn money; and the third one is financial education, which represents knowledge of financial culture, understanding certain figures, and language. All three types of education are crucial for entrepreneurship and can be considered as a motivation for involvement in those processes.

**Locus of control.** Locus of control can be divided into two parts: internal and external. Locus of control measures what kind of control a person has over their life. Internal locus of control describes how a person controls their own life and believes in his/her decisions, while external shows how life can be affected by external factors such as luck, other people's behaviour, and so on (Karabulut 2016). Hisrich and Peters (1998) believe that locus of control is "an attribute indicating the sense of control that a person has over life". It is expected that people with an internal locus of control have motivations to become entrepreneurs and start their businesses.

**Risk taking.** Stewart and Roth (2001) believe that entrepreneurs are better risk takers compared to managers. They tolerate career, family, and financial risks and this is one of the major traits associated with achieving success (Alshebami and Seraj 2022). People with

higher acceptance of risk tend to have more entrepreneurial motivations and may start a new business (Wu and Mao 2020).

**Creativity.** An individual's cognitive processing is aided by creativity, which constitutes the potential to develop new and useful ideas by combining existing and matching expertise and skills (Wei et al. 2020). Many scholars associate creativity with entrepreneurship as it is one of the most influential factors related to it and we can state that entrepreneurship itself is a type of creativity. People with a high level of creativity can maintain a positive disposition and identity when engaging in business activities (Mahto and McDowell 2018). Creativity can be one of the motivators for engaging in entrepreneurial activities.

**Need for achievement.** The need for achievement is described as possessing a strong motivation and intention to succeed. Several studies have found that the need for achievement has a considerable influence on entrepreneurial ambitions (Gürol and Atsan 2006; Shane et al. 2003). Researchers discovered that students tend to start new businesses and become entrepreneurs depending on their level of need for achievement, so they concluded that it influences intentions and further motivations as well (Gürol and Atsan 2006).

**Self-confidence.** Self-efficacy is described as a person's belief in his capacity to accomplish a task and his conviction that he will use this skill successfully to accomplish specific goals (Negara et al. 2019). According to Carsrud and Brännback (2011), self-efficacy influences entrepreneurship. It can contribute to the firm's performance (McGee and Terry 2022). Entrepreneurial motivation is impacted by self-efficacy via cognitive abilities, desire, and emotional responses. A person with strong self-efficacy has superior intellectual capacity, strategic adaptability, and is effective at environmental management (Bandura 1977). In other words, these individuals exercised greater control since they attempted to plan for the best- and worst-case scenarios, are capable of adapting to changes in plans and can manage environmental volatility.

A deeper knowledge of entrepreneurial motivation may be obtained by examining the combined effect of the above-discussed personality traits, as the literature study demonstrates that personality traits play a significant part in motivation to be an entrepreneur (Karabulut 2016). The widely used "Big Five" and narrow traits have been related to entrepreneurial motivation and success; many studies have researched this relationship, but in this paper, we narrowed down the traits and chose specific ones that can influence the motivation. Therefore, we form the first hypothesis:

**Hypothesis 1 (H1).** *Personality traits positively affect individuals' entrepreneurial motivation.*

#### 2.4. Business Barriers and Entrepreneurial Motivation

Business barriers have a significant degree of influence on the entrepreneurial motivation of individuals. Exploring the business barriers factor is critical, since studying entrepreneurship determinants from the angle of personality traits alone would not be sufficient (Taormina and Lao 2007). Entrepreneurial motivation is a reaction to business environment stimuli. These elements have an impact on the formation of the brain and, as a result, on raising entrepreneurs (Pacut 2020). Entrepreneurs are bred by the business environment, and as a result, they acquire and apply what it has instilled in them (Shane et al. 2003).

Many academics who studied the aspects determining entrepreneurial motivation from the perspective of the entrepreneurial barriers saw the external environment as an objective condition for entrepreneurship (Munir et al. 2019). Suzuki et al. (2002) described entrepreneurial motivation as the result of environmental and individual factors; it is impacted by management abilities, managerial capabilities, market circumstances, corporate culture, and government backing. Alshebami and Seraj (2022) argue that high taxes, additional business laws, and limitations, particularly those pertaining to the labour force, deter people from opening small firms and have a negative impact on entrepreneurship. According to research by Gohmann (2012), economic barriers have a big impact on potential entrepreneurs and their motivation; individuals tend not to be engaged in entrepreneurship

if their countries lack economic freedom. Some researchers studied the relationship between entrepreneurial motivation and socioeconomic barriers and highlighted that individual motivation was negatively affected by social and economic issues (Yao et al. 2016). According to Martínez-González et al. (2022), entrepreneurs' sentiments and motivations are greatly influenced by their impressions of the business barriers. Taormina and Kin-Mei Taormina and Lao (2007) completed a quantitative study on the relationship between entrepreneurial motivation and business barriers, discovering that the former is impacted by motivation towards accomplishment, optimism about life, and social networking. Previous studies mostly focused on the impact of political and socio-economic barriers on entrepreneurial motivations, while this study will take into consideration political, economic, social, legislative, ecological, and technological factors. We grouped barriers into two groups, and while previous research paid much attention on the first group of barriers (Pacut 2020), the influence of the second group has not been deeply studied yet. Based on the above viewpoints, we can form a second hypothesis:

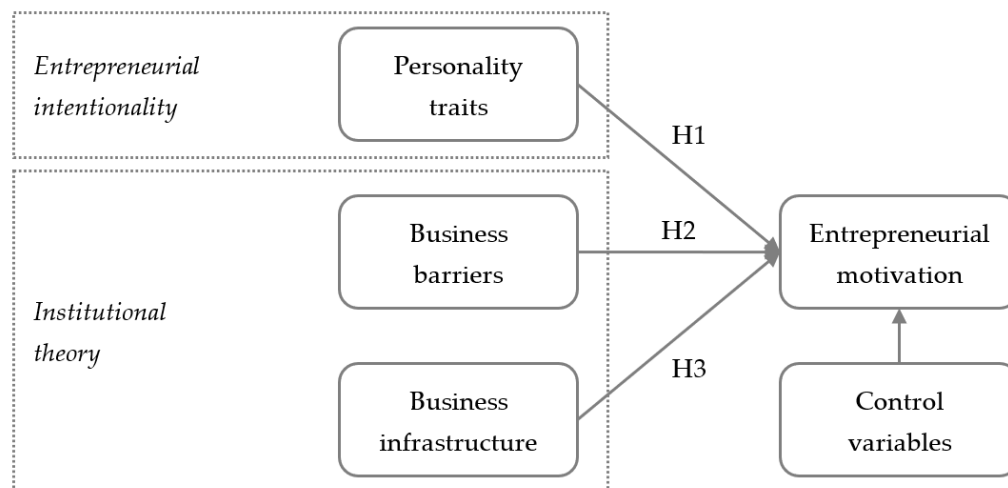
**Hypothesis 2 (H2).** *Business barriers negatively affect an individual's entrepreneurial motivation.*

Certain infrastructure components appear to have a significant influence on the entrepreneurial climate (Gnyawali and Fogel 2017). These elements include an existing share of the market for products/services, existing resources for important raw materials, enough qualified workforce in the region, and the possibility to improve capacity, transportation systems, and the supply of electricity. Previously, various authors discussed the elements of infrastructure that influenced motivation, but in this study, we selected specific elements that we believe are crucial for motivation. Kontos (2010) argues that entrepreneurs make decisions about where to start their businesses based on these indicators. Global Entrepreneurship Monitor reported that a lack of transportation or a non-developed transport system is one of the challenge entrepreneurs face (Ahmad and Xavier 2012). The discussion shows that the existence of various infrastructure elements increases entrepreneurs' motivation, and therefore, increases the growth of businesses in a country. Though a single factor may have a less significant impact, the interaction of various factors may considerably increase the impact on entrepreneurial motivation (Suzuki et al. 2002). In addition, Carsrud and Brännback (2011) state that without existing market share for products or services, or the possibility to increase capacity, entrepreneurs will not be able to start a business and their motivation will decrease. Furthermore, Oosterbeek et al. (2010) argued that the qualified workforce directly impacts entrepreneurial motivation; the authors showed that entrepreneurs tend to start new businesses in regions where they see the possibility of having qualified employees for their new firms. On the other hand, other authors indicate that the data from their analysis highlight a connection between infrastructure and motivation, but the relation is negative (Çera et al. 2021a). Research conducted in central European studies showed that in Slovakia and Poland, infrastructure does not have a positive impact on motivation. Mixed results were given in the paper by (Walter and Block 2016). Other authors' efforts reveal discrepancies in the academic findings (Nowiński et al. 2020). They carried out study on individuals from the USA and Poland who wanted to start their own businesses. The direct impact of infrastructure on entrepreneurial motivation was shown to be modest, whereas the indirect impact was found to be considerable. This gives further motivation to conduct the current research and study the relationship between these two variables. As can be seen from the previous studies, infrastructure elements were studied separately along with their influence on motivation, but this study considers a specific group of elements and their joint effect on entrepreneurial motivation. Based on what was discussed above, we can form a third hypothesis:

**Hypothesis 3 (H3).** *Business infrastructure positively influences an individual's entrepreneurial motivation.*

### 2.5. Conceptual Model

Figure 1 shows the conceptual framework of the current research. As discussed in the literature review, entrepreneurial motivation can be influenced by three domains: personality traits, business barriers, and business infrastructure. They imply at least two theories, such as entrepreneurial intentionality (Bird 1988) and institutional theory (North 1990).



**Figure 1.** Conceptual framework.

## 3. Methods and Procedures

### 3.1. Data

In order to test the research model, primary data are needed for analysis. To collect primary data, a questionnaire should be developed. Therefore, to test the formulated hypotheses, a questionnaire is designed based on the literature in English. Then, it was translated into the Czech, Hungarian, and Serbian languages. It consists of two major parts: a demographic module and questions covering personality traits, entrepreneurial motivation, and business barriers.

As can be foreseen, the unit of analysis in this research consists of individuals. The respondents of the questionnaire were individuals from Czechia, Hungary, and Serbia. They were selected from business databases in their respective countries and reached via email. The respondents were asked to fill out an online form. Only the self-employed were considered as valid to fill in the form. They were targeted because they would offer a better understanding of the role of business barriers and enablers on motivation to start a business. The online form provided only one opportunity to fill it in.

After cleaning the collected data, the size of the sample consists of 329 valid responses. Regarding the distribution of the respondents by country, 28.9%, 30.4%, and 40.7% were from Czechia, Hungary, and Serbia, respectively. The majority of the respondents were males (61.7%), while less than two out of five of them were females. Regarding the highest level of completed education, the respondents are distributed as follows: 41.9% had high-school education or lower, 15.5% had professional education, 25.8% were undergraduates, and the rest were postgraduates (16.7%). Seven out of ten respondents said that are married, while 15.9% of them were single and less than 14% of the sample reported that they are divorced.

### 3.2. Variable Measurement

The measurement of the variables is shown in Table 1. The dependent variable is entrepreneurial motivation, measured on a Likert scale. This scale was used by scholars in prior studies (Mónico et al. 2021; Hessels et al. 2008; Segal et al. 2005; Jayawarna et al. 2013; Maheshwari et al. 2022). Personality traits are a scale used in the literature by numerous scholars, and are measured almost similarly (Karabulut 2016; Munir et al. 2019; Şahin et al.

2019; Premand et al. 2016; Lüthje and Franke 2003). In this paper, seven indicators are used for measurement, which are: independence, being educated, internal locus of control, risk taking, creativity, need for achievement, and self-confidence. Business barriers, known as well as institutions, are measured following the scale proposed by Çera et al. (2019a). Infrastructure measurement involves a Likert scale type of variable with six indicators as shown in Table 5. The measurement of this factor was inspired by prior studies (Gnyawali and Fogel 2017; Kontos 2010; Carsrud and Brännback 2011; Oosterbeek et al. 2010). The county, age of the respondent, his/her gender, being married or not, and working hours per week are used as control variables.

**Table 1.** Variable measurement.

Variable	Type	Measure
Country	Nominal	Where do you live? [1] Czechia; [2] Hungary; [3] Serbia
Age	Scale	What is your age?
Gender	Dummy	What is your gender? [1] Male, [2] Female
Married	Dummy	Are you married? [1] Yes, [2] No
Hours working	Scale	Please indicate how many hours do you spend on average at/or with work, weekly.
Entrepreneurial motivation (dependent variable)	Likert scale	Rate each of the following items (refer to Table 2) on how important they are for you. [1] 'Lowest' to [5] 'Highest'
Personality traits	Likert scale	Please rate the importance of the following factors for success (refer to Table 3). [1] 'Lowest' to [5] 'Highest'
Business barriers	Likert scale	To what extent the following factors (see Table 4) created difficulties for your business? [1] 'Lowest' to [5] 'Highest'
Infrastructure	Likert scale	Importance of the following infrastructure of the surrounding region where you live (see Table 5). [1] 'Not important to [5] 'Very important'

**Table 2.** Component matrix: motivation for entrepreneurship.

	Loading	Mean	Standard Deviation
Access to additional financial resources	0.822	3.772	1.230
Good networks	0.779	3.681	1.168
Employment creation	0.769	3.264	1.332
Financial motives	0.512	4.277	0.8730
Eigenvalue	2.135		
Variance explained	0.534		
Cronbach's alpha	0.706		

*Note:* Extraction method, Principal Component Analysis. Rotation method, Varimax with Kaiser normalization. Only one component was extracted. The solution cannot be rotated. Kaiser–Meyer–Olkin Measure of sampling adequacy = 0.660. Sig. Bartlett's test < 0.001.



**Table 3.** Rotated component matrix: personality traits.

	Loading		Mean	Standard Deviation
	PersTr. 1	PersTr. 2		
Independence	0.806		3.979	1.060
Being educated	0.797		3.489	1.232
Internal locus of control	0.669		4.091	0.968
Risk taking		0.700	4.131	0.875
Creativity		0.689	4.198	0.982
Need for achievement		0.661	4.204	0.952
Self-confidence		0.576	4.401	0.839
Eigenvalue	2.792	1.070		
Variance explained	0.286	0.266		
Cronbach's alpha	0.792	0.736		

Note: Extraction method, Principal Component Analysis. Rotation method, Varimax with Kaiser normalization. Rotation converged in 3 iterations. Kaiser–Meyer–Olkin Measure of sampling adequacy = 0.765. Sig. Bartlett's test < 0.001. Coefficient loading displayed >|0.5|.

**Table 4.** Rotated component matrix: business barriers.

	Loading		Mean	Standard Deviation
	BusBar. 1	BusBar. 2		
Political issues	0.781		2.912	1.564
Economic issues	0.764		3.912	1.228
Social issues	0.590		3.167	1.244
Legislative issues	0.556		3.313	1.474
Ecological issues		0.844	2.100	1.160
Technological issues		0.830	2.757	1.312
Eigenvalue	2.182	1.286		
Variance explained	0.311	0.267		
Cronbach's alpha	0.730	0.733		

Note: Extraction method, Principal Component Analysis. Rotation method, Varimax with Kaiser normalization. Rotation converged in 3 iterations. Kaiser–Meyer–Olkin Measure of sampling adequacy = 0.652. Sig. Bartlett's test < 0.001. Coefficient loading displayed >|0.5|.

**Table 5.** Rotated component matrix: Infrastructure.

	Loading		Mean	Standard Deviation
	Infrast. 1	Infrast. 2		
Existing share of the market for products/services	0.697		3.910	1.148
Existing resources for important raw material	0.682		3.198	1.416
Sufficient qualified workforce in the region	0.677		3.723	1.373
Possibility to increase capacity	0.594		3.641	1.224
Transportation system		0.871	3.415	1.366
Supply of electricity		0.783	3.600	1.383
Eigenvalue	2.479	1.024		
Variance explained	0.300	0.283		
Cronbach's alpha	0.748	0.718		

Note: Extraction method, Principal Component Analysis. Rotation method, Varimax with Kaiser normalization. Rotation converged in 3 iterations. Kaiser–Meyer–Olkin Measure of sampling adequacy = 0.745. Sig. Bartlett's test < 0.001. Coefficient loading displayed >|0.5|.

### 3.3. Data Analysis

In this paper, four variables are measured using indicators. To reduce the number of these indicators, principal component analysis was performed per each set of indicators (Fabrigar and Wegener 2011). As the rotation method, Varimax with Kaiser normalization was selected. The output of the analyses is organized in table format per each set of

indicators: entrepreneurial motivation (Table 2), personality traits (Table 3), business barriers (Table 4), and infrastructure (Table 5). Only factors reflecting eigenvalues higher than the value of one were kept in the analysis. The Kaiser–Meyer–Olkin value for each set of indicators was found to be greater than the standard threshold of 0.70 and Barlett’s test of sphericity was reported to be statistically significant, indicating that the performed factor analysis is appropriate (Hair et al. 2010).

The factor analysis of indicators of entrepreneurial motivation emerged with only one factor explaining more than half of the variation in the data (refer to Table 2). Additionally, the factor loading was higher than the standard threshold of 0.40, meaning that the construct convergent validity is set (Stevens and Pituch 2015). Moreover, the scale results manifest good reliability, since the value of Cronbach’s alpha was above the threshold of 0.70 (Hair et al. 2010). Besides the figures generated by factor and reliability analyses, in the table two descriptive statistics for each indicator are reported: mean and standard deviation.

The second performed factor analysis deals with personality traits indicators. Two factors emerged from the principal component analysis, explaining more than half of the variation in the data (refer to Table 3). In addition, the factor loading was higher than the value of 0.40, indicating that the construct convergent validity is not an issue (Stevens and Pituch 2015). Furthermore, the emerged factors reflected accepted reliability, since the value of Cronbach’s alpha was not below the threshold of 0.70 (Hair et al. 2010). Apart from the figures provided by reliability and factor analyses, beside each indicator two additional statistics are shown: mean and standard deviation.

Table 4 summarizes the output of factor and reliability analyses about the indicators of business barriers. Similar to personality traits, two factors emerged from the principal component analysis. The explained variance by both emerged factors is almost 60% in the sample. Again, the factor loading was higher than the value of 0.40, providing evidence of construct convergent validity (Stevens and Pituch 2015). Like the personality traits case, both emerging factors showed acceptable scale reliability, since the value of Cronbach’s alpha happened to be above 0.70 (Hair et al. 2010). To have a better view of the measured factors, next to each indicator are shown two additional statistics: mean and standard deviation.

Table 5 reports the output of the principal component and reliability analyses of the indicators that were used to represent infrastructure. Similarly to the case of business barriers, the performed principal component analysis resulted in two factors. Almost 60% of the variance in the sample is explained by these factors. The item reliability is set, since the factor loadings gave a value higher than 0.50, showing that construct convergent validity is set (Stevens and Pituch 2015). Additionally, both emerging factors showed acceptable scale reliability, since the value of Cronbach’s alpha resulted above 0.70 (Hair et al. 2010). To have a better understanding of the indicators included in the analysis, the mean and standard deviation is shown for each of them.

### 3.4. Method

The research model is tested by regressing the emerging factors from principal component analysis against entrepreneurial motivation. Having the dependent variable characterized as a scale type of variable provides the possibility of testing the proposed relationships using standard regression (ordinary least square) (Harrell 2015). The assumption of normality of the interest variables is set since the emerged factors are generated by principal component analysis, which by default creates normally distributed variables. To better judge the influence of each factor on motivation for entrepreneurship, five regressions were performed. The first one includes only the control variables and the constant, while the last regression includes both the control variables and emerging factors from the factor analyses.

A general form of the fifth model can be seen below:

$$\begin{aligned} EntMot = & \beta_0 + \beta_1 PersTr_1 + \beta_2 PersTr_2 + \beta_3 BusBar_1 + \beta_4 BusBar_2 \\ & + \beta_5 Infrast_1 + \beta_6 Infrast_2 + control\ variable + \varepsilon \end{aligned}$$

where *EntMot*, *PersTr*, *BusBar*, *Infrast* stand for entrepreneurial motivation, personality traits, business barriers, and infrastructure;  $\beta$ s represent the standardized coefficients, and  $\varepsilon$  refers to the error term (unexplained variance).

All analyses in this paper are performed by utilizing SPSS, version 23, following the instructions outlined by Sarstedt and Mooi (2019) and Pallant (2016).

#### 4. Results

To investigate the influences of personality traits, business barriers, and infrastructure on entrepreneurial motivation, five regression models are performed. The output of these regressions is shown in Table 6. The first model can be known as a baseline one, since it includes only control variables as regressors. The control variables in this paper are country, age, gender of the respondent, and the average number of hours worked per week. The model explains 26% of the variation in entrepreneurial motivation and is statistically significant ( $F = 17.8$ ). Excluding gender ( $\beta = 0.068$ ,  $t = 1.371$ ,  $p > 0.10$ ), all the other variables resulted in statistically significant determinants for entrepreneurial motivation.

Table 6. Regression results.

Effect	Variable	Model 1			Model 2			Model 3			Model 4			Model 5		
		Beta	t	Sig.	Beta	t	Sig.	Beta	t	Sig.	Beta	t	Sig.	Beta	t	Sig.
Control	Constant		−3.440	0.001		−2.877	0.004		−2.958	0.003		−2.883	0.004		−2.534	0.012
	SR	0.406	6.699	0.000	0.236	4.154	0.000	0.429	6.775	0.000	0.373	6.328	0.000	0.280	4.738	0.000
	HU	0.409	6.980	0.000	0.264	4.881	0.000	0.398	6.794	0.000	0.336	5.736	0.000	0.241	4.394	0.000
	Age	−0.109	−2.118	0.035	−0.038	−0.818	0.414	−0.142	−2.762	0.006	−0.099	−1.969	0.050	−0.046	−0.957	0.339
	Male	0.068	1.371	0.171	0.041	0.932	0.352	0.067	1.368	0.172	0.076	1.546	0.123	0.045	1.020	0.309
	Married	0.180	3.529	0.000	0.125	2.736	0.007	0.179	3.561	0.000	0.163	3.273	0.001	0.114	2.492	0.013
	Hours worked	0.192	3.740	0.000	0.111	2.400	0.017	0.182	3.593	0.000	0.139	2.720	0.007	0.090	1.936	0.054
H1	PersTr 1				0.359	7.522	0.000							0.331	6.839	0.000
	PersTr 2				0.286	6.267	0.000							0.272	5.498	0.000
H2	BusBar. 1							0.008	0.147	0.884				−0.074	−1.561	0.120
	BusBar. 2							−0.174	−3.459	0.001				−0.112	−2.384	0.018
H3	Infrast. 1										0.198	3.984	0.000	0.085	1.764	0.079
	Infrast. 2										0.159	3.193	0.002	0.061	1.296	0.196
Model fit	R square	0.259			0.426			0.287			0.316			0.453		
	F statistic	17.8			28.1			15.3			17.2			20.2		

Note: Dependent variable, motivation for entrepreneurship. Beta, standardized coefficients. PersTr, personality traits; BusBar, business barriers; Infrast, infrastructure. The reference country is Czechia. Male = 1, otherwise 0. Married = 1, otherwise 0.

In the second model, in addition to control variables, personality traits are regressed against motivation for entrepreneurship. The inclusion of the two factors that emerged from the factor analysis that covers personality traits almost doubled the explained variance compared to the baseline model ( $R^2 = 42.6\%$ ,  $F = 28.1$ ). Both factors reflected a positive and statistically significant relationship with entrepreneurial motivation ( $PersTr_1$ :  $\beta = 0.359$ ,  $t = 7.522$ ,  $p < 0.001$ ;  $PersTr_2$ :  $\beta = 0.286$ ,  $t = 6.267$ ,  $p < 0.001$ ). Having these results, one can state that the data of this paper support H1, which claims that entrepreneurial motivation is positively influenced by personality traits.

The third model includes business barriers along with control variables. The two emerging factors of business barriers do not show the same importance for entrepreneurial motivation. Hence, the first factor of business barriers is found to be insignificant for entrepreneurial motivation ( $\beta = 0.008$ ,  $t = 0.147$ ,  $p > 0.10$ ), while the second factor showed a negative and significant relationship ( $\beta = -0.174$ ,  $t = -3.459$ ,  $p < 0.01$ ). The inclusion of the two factors that emerged from the factor analysis that covers business barriers did not improve the explained variance compared to the baseline model ( $\Delta R^2 = 2.8\%$ ,  $F = 15.3$ ). Since the result of the two factors is mixed regarding their influence on entrepreneurial motivation, H2 is partially supported.

Infrastructure is found to be an important determinant for individuals regarding the motivation towards entrepreneurship. The fourth model shown in Table 6 represents

the inclusion of two factors that emerged from the principal component analysis about infrastructure. The addition of these two variables increased the explained variance by 6% compared to the baseline model ( $R^2 = 31.6\%$ ,  $F = 17.2$ ). Thus, both factors reflected a positive and statistically significant influence on entrepreneurial motivation (*Infrast*<sub>1</sub>:  $\beta = 0.198$ ,  $t = 3.984$ ,  $p < 0.001$ ; *Infrast*<sub>2</sub>:  $\beta = 0.159$ ,  $t = 3.193$ ,  $p < 0.01$ ). Therefore, based on the analysis, it can be said that H3 is supported.

The above paragraphs correspond to the interpretation of models that do not include all variables at once in the regression. The last column of Table 6 is shown the output of the regression that includes all independent and control variables. The same results as in previous models are obtained even in this case. The difference here exists in the fact that the two emerged factors covering infrastructure do not manifest the same results as in model 4. To summarize, the data provide evidence in support of H1, since as the personality traits increase, so does individual entrepreneurial motivation. In addition, regarding business barriers, the results show mixed findings leading to the partial support of H2, which claims that entrepreneurial motivation is negatively affected by business constraints. Moreover, the data partially support H3, since only one factor of the infrastructure resulted in positive and statistical influences on motivation towards entrepreneurship. Nevertheless, these findings merit being discussed with reference to prior research as well. This discussion proceeds in the following section of the paper.

## 5. Discussion

The current article has provided new insights into the relationships between personality traits, business barriers, business infrastructure, and entrepreneurial motivation. Some findings were discordant with the current literature when contrasted with the study's purpose, which was to evaluate the influence of personality factors, business constraints, and business infrastructure on entrepreneurial motivation. According to the data, some business barriers have little effect on entrepreneurial motivation. These should be investigated further. Future studies need to focus on identifying the element of institutional constraints that do not affect entrepreneurial motivation. The primary findings of this study, as well as each carefully expressed hypothesis, are presented in the following paragraphs.

The research first explores the impact of personality traits on a person's entrepreneurial motivation. We performed a principal component analysis of the indicators that are linked to personality traits and two factors emerged: the first one includes independence, being educated, and internal locus of control, and the second one includes risk taking, creativity, need for achievement, and self-confidence. The evidence showed that personality traits (both factors) significantly impact entrepreneurial motivation. Findings showed that the more people display the above-discussed personality traits, the more they tend to be involved in entrepreneurship and starting a new business. Thus, a high level of traits positively affects motivation. More specifically, the results suggested that the complex influence of seven different configurations predicts a high level of entrepreneurial motivation. These findings are consistent with the existing literature (Bird 1988; Boyd and Vozikis 1994; Bird and West 1998; Karabulut 2016). Thus, we found evidence supporting the first hypothesis. It is important to stress that different personality traits can be increased by several boosting factors. Prior research indicates that being educated, the need for achievement and self-confidence can be increased by education (Negara et al. 2019; Secundo et al. 2021; Ndou et al. 2019; Ndou 2021). Some authors also suggest that role models can also improve the level of internal locus control and self-confidence (Murnieks et al. 2020) A role model helps individuals to learn, develop, and enhance their self-esteem by providing a picture of a realistic, good career choice experience.

The second examination studied the association between business barriers and entrepreneurship motivation. The importance of institutional barriers, regardless of their nature, in affecting the entrepreneurial behaviour of individuals, either negatively or positively, has been noted repeatedly in the existing literature (North 1990). Unlike many existing studies supporting business barriers that negatively impact motivation (Alshebami

and Seraj 2022), the present study's results show a different outcome. The study findings reveal that the two emerging factors as business barriers do not attach the same importance to entrepreneurial motivation. As the first factor was found to be insignificant, it does not impact negatively on entrepreneurial motivation. This needs further investigation as to which element or set of elements does not influence motivation. It can be shown later in the studies that these elements do not have a direct impact, but may play a mediation role in the relationship. On the other hand, the second factor was found to be significant, and it indicates that the second factor negatively affects entrepreneurial motivation. This means that the greater the institutional requirements, the more likely motivation is to decrease. There are lots of studies that support the idea that business barriers negatively impact motivation (Martínez-González et al. 2022; Suzuki et al. 2002; Gohmann 2012; Taormina and Lao 2007; Munir et al. 2019), though some other studies show that barriers are not always significant for motivation, firm growth (Xheneti and Bartlett 2012; Ur Rehman et al. 2019), business climate (Çera et al. 2019b), and sales of under-reporting firms (Williams and Krasniqi 2018). Considering the results, we can partially support the third hypothesis and state that ecological and technological barriers decrease entrepreneurial motivation.

This paper also describes how business infrastructure impacts the motivation of a person toward entrepreneurship. It was expected that a positive relationship would be found between infrastructure and motivation. Results showed that both factors had significant, positive effects on motivation. This outcome is aligned with prior studies which also indicate a positive relationship between these variables (Gnyawali and Fogel 2017; Kontos 2010; Carsrud and Brännback 2011; Oosterbeek et al. 2010; Ahmad and Xavier 2012). On the other hand, this paper goes against the literature that previously suggested a negative relationship between infrastructure and motivation (Nowiński et al. 2020).

Furthermore, the uniqueness of this study is that it not only analyses the separate impact of each independent variable on entrepreneurial motivation, but the joint effect of all variables has also been researched. The results give a slightly different picture compared to what was shown before; specifically, infrastructure factors scored differently compared to when the independent relationship was explored relating to these constructs. The second factor was not significant, which means that transport systems and the supply of electricity may not have a positive effect on motivation. This could be caused by country specificity, and in further studies, more detailed analyses should be conducted.

## 6. Conclusions

The current study seeks to research the linkages between personality traits, business barriers, business infrastructure, and entrepreneurial motivation, all of which are now highly demanded. Furthermore, it was discovered that these factors are understudied in published research. The examined relationship adds to the current body of knowledge. It can assist policymakers and businesses interested in entrepreneurship in thinking from a variety of viewpoints and discovering innovative solutions. A deeper understanding of the factors that contribute to motivation may give the aforementioned players additional ideas to modify or develop new entrepreneurship-promoting strategies and regulations; accordingly, is important to investigate what triggers the motivation and what decreases it. The current research provides useful insights on entrepreneurial motivation determinants in the light of two theories that were tested in the study: entrepreneurial intentionality (Bird 1988) and institutional theory (North 1990).

### 6.1. Contribution of the Study

The article's significant addition, however, is that it examined business infrastructure, which is a present priority of the government and entrepreneurs. This research also proposed a model based on two theories (Bird 1988; North 1990), and after integrating them, proposed the conceptual framework. As a result, the study contributes to the current knowledge of which personality traits influence motivation. Hence, the study adds to the existing literature on how personality traits, institutional constraints, and business infras-

structure affect entrepreneurial motivation. In this paper, personality traits were measured with seven indicators, which translates into covering a wider set of dimensions. The current study also shows that, contrary to previous studies, not all business constraints have a detrimental impact on entrepreneur motivation. Barriers should be classified into two types for future academics to examine their influence on entrepreneurship. However, barriers that have an indirect impact on motivation play a moderating role in the relationship. The outcomes reveal more about the entrepreneurs' thinking. Because entrepreneurial motivation is one of the most essential variables for the government and entrepreneurs, they seek higher-level knowledge and study to assist them in identifying the aspects that drive it.

The findings have some practical relevance for policymakers, who might utilize the study's findings to influence the important elements influencing motivation. The results of this investigation also help policymakers to learn how they might encourage the rise of entrepreneurship, which would increase national economic growth and decrease unemployment. It also assists aspiring entrepreneurs in understanding what influences entrepreneurial motivation, improving it, and becoming successful entrepreneurs. Policymakers should reduce business barriers to trigger entrepreneurial motivation; furthermore, they need to design more engaging business policies. This study helps to increase understanding of the key personality traits that influence entrepreneurial motivation, in order to better support the government's initiatives to build institutional structures and foster entrepreneurship among citizens, to better facilitate the launch of small businesses. As business infrastructure was found to influence motivation, it is important for the government to consider the findings and focus on improving infrastructure to create a friendly environment for businesses.

This study has brought contributions to educational institutions as well. They need to carefully adjust their curricula to increase personality trait levels among their students. Educational institutions play a significant role in increasing entrepreneurial thinking and developing an entrepreneurial mindset. These educational institutions could aim to foster and maintain these personality traits in youth, encouraging them to engage in entrepreneurial endeavours and activities. Personality traits level among university students can be increased by attending different educational programs. As it was found that traits positively affect motivation, this is a good area of focus for the students to become involved in start-ups.

## 6.2. Limitations and Future Research Avenues

Like every other study, this research also has some limitations that can be addressed in future research. The first and foremost limitation of the present examination is the limited sample size. It is believed that a bigger number of observations could lead to more robust results. This analysis was conducted in a limited number of countries; including other countries in the future might lead to a different result. Scholars can add more personality trait elements to the analyses in the future. As well as moderating and mediating variables in potential conceptual models, their joint effect on motivation would be an interesting topic to explore. In the same way, business barriers or business infrastructure elements can be added, and relationships can be studied. As discussed before, some barriers show an indirect influence on the motivation as they play a moderating role only; it would be interesting to explore this moderation effect as well. The research also may bring attention to the necessity of continuing to develop training programs and initiatives aimed at enhancing personal traits among prospective entrepreneurs, particularly those related to developing the above-discussed personality traits. In order to support society and culture and promote entrepreneurial activity, it is also necessary to create a suitable entrepreneurial ecosystem with the right institutional infrastructure.

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