

a scientific open access quarterly



**Entrepreneurial Business and Economics Review**

eISSN 2353-8821

2022, Vol. 10, No. 4



**CRACOW UNIVERSITY OF ECONOMICS**  
Department of International Trade  
Centre for Strategic and International Entrepreneurship

a scientific open access quarterly

---



**Entrepreneurial Business and Economics Review**

---

eISSN 2353-8821

2022, Vol. 10, No. 4



**CRACOW UNIVERSITY OF ECONOMICS**  
Department of International Trade  
Centre for Strategic and International Entrepreneurship

---

### Publisher

---

Cracow University of Economics  
Centre for Strategic and International Entrepreneurship  
Department of International Trade  
ul. Rakowicka 27, 31-510 Kraków, Poland  
phone +48 12 293 5929, -5376, -5307, -5381  
e-mail: eber@uek.krakow.pl  
www.eber.uek.krakow.pl

---

### Secretariat and Editorial Office

---

Mrs. Anna Marcinek-Markowska  
Building U, Room 300, phone +48 12 293 5929

---

### Executive Team for this Issue

---

**Copyediting:** Mikołaj Golubiewski, Jan Burzyński  
**Proofreading:** Anna Marcinek-Markowska  
**Cover and DTP:** Marek Sieja

---

### Reviewers

---

All articles are double-blinded peer-reviewed at least by two independent reviewers.  
The detailed list of reviewers is published at our website once a year.

---

### Original Version

---

The online journal is the primary and reference version.  
Both printed and online versions of the journal are original and identical.

ISSN 2353-883X (printed version, in the years 2013-2019)  
eISSN 2353-8821 (online version, since 2013)

---

### Copyright and License

---

Copyright by Authors and by Cracow University of Economics, CC BY-ND 4.0 License  
EBER is an open access journal according to DOAJ.



---

## Editorial Board

### Editor-in-Chief

Krzysztof Wach

### Associate Editors

Jan Brzozowski, Nicola Daniele Coniglio (Italy), Marek Ćwiklicki, Marek A. Dąbrowski, Milica Delibašić (Montenegro), Dương Công Doanh (Vietnam), Veselin Drašković (Montenegro), Remigiusz Gawlik, Agnieszka Głodowska, Maria Alejandra Gonzalez-Perez (Colombia), Mohamed Yacine Haddoud (UK), Jakub Janus, Bartłomiej Marona, Renata Osowska (UK), Joanna Purgał-Popiela, Tomasz Rachwał, Aidin Salamzadeh (Iran), Magdolna Sass (Hungary), Aviv Shoham (Israel), Mike Troilo (USA), Tiia Vissak (Estonia), Agnieszka Wałęga

---

## Consulting Editors – International Editorial Advisory Board

**Ilan Alon**, University of Adger (Norway)  
**Armenia Androniceanu**, Bucharest University of Economic Studies (Romania)  
**Garry D. Bruton**, Texas Christian University, USA  
**Paweł Capik**, Bristol Business School (United Kingdom)  
**Agnieszka Chidlow**, University of Birmingham (United Kingdom)  
**Vesna Čančer**, University of Maribor (Slovenia)  
**Léo-Paul Dana**, Montpellier Business School (France)  
**Jérôme Creel**, OFCE & ESCP Europe – Paris (France)  
**Marco Cucculelli**, Università Politecnica delle Marche – Ancona (Italy)  
**Marina Dabić**, University of Zagreb (Croatia); Nottingham Trent University (UK)  
**Antonio Duréndez Gómez-Guillamón**, Technical University of Cartagena (Spain)  
**Etienne Farvaque**, University of Lille (France)  
**Jörg Freiling**, University of Bremen (Germany)  
**Elena Horská**, Slovak University of Agriculture in Nitra – Nitra (Slovakia)  
**Andreja Jaklič**, University of Ljubljana (Slovenia)  
**Lester W. Johnson**, Swinburne University of Technology, Australia  
**Craig Julian**, American University in Ras Al Khaimah (United Arab Emirates)  
**Blaženka Knežević**, University of Zagreb – Zagreb (Croatia)  
**Jonathan Levie**, National University of Ireland Galway (Ireland)  
**Youenn Loheac**, France Business School – Brest (France)  
**Pierre-Guillaume Méon**, Université Libre de Bruxelles (ULB) – Brussels (Belgium)  
**Tomasz Mickiewicz**, Aston University (United Kingdom)  
**Martina C. Musteen**, San Diego State University (USA)  
**James Nebus**, Suffolk University – Boston (USA)  
**William Newbury**, Florida International University (USA)  
**Andrei Panibratov**, St. Petersburg University (Russia)  
**Byung Il Park**, Hankuk University of Foreign Studies (Korea)  
**G. Tyge Payne**, Louisiana State University (USA)  
**J. Hanns Pichler**, Vienna University of Economics and Business (Austria)  
**Aleksy Poczrowski**, Cracow University of Economics – Krakow (Poland)  
**Panikkos Poutziouris**, University of Central Lancashire Cyprus – Pyla, Larnaka (Cyprus)  
**Matevž Raškovič**, Victoria University of Wellington (New Zealand)  
**Vanessa Ratten**, La Trobe University, Australia  
**Anne H. Reilly**, Loyola University Chicago – Chicago (USA)  
**Domingo Enrique Ribeiro-Soriano**, University of Valencia, Spain  
**Arnold Schuh**, Vienna University of Economics and Business (Austria)  
**Luboš Smutka**, Czech University of Life Sciences Prague (Czech Republic)  
**Jelena Stankevičienė**, Vilnius Gediminas Technical University – Vilnius (Lithuania)  
**Thomas Steger**, University of Regensburg (Germany)  
**Attila Tasnádi**, Corvinus University of Budapest – Budapest (Hungary)  
**Stephane Vigeant**, Equippe Lille & IESEG School of Management – Lille (France)  
**Dianne H.B. Welsh**, University of North Carolina – Greensboro (USA)

---

---

## Abstracting/Indexing

The journal, and all its articles, is abstracting and/or indexing in international databases, including:



ESCI Web of Science™ Core Collection (USA)

Scopus by Elsevier (the Netherlands)

SJR – Scimago Journal Ranking (Spain)

Clarivate Analytics (Beijing, China)

EconLit – American Economic Association (USA)

ABI/INFORM Global (USA)

ProQuest Entrepreneurship (USA)

EBSCO Business Source Ultimate (USA)

EBSCO Business Source Corporate Plus (USA)

Cabell's International (USA)

Sherpa Romeo (UK)

Publons (Beijing, China)

ERIH Plus (Norway)

DOAJ (England, UK)

Google Scholar (USA)

NSD Nordi – Norwegian Register for Scientific Journals, Series and Publishers (Norway)

Julkaisufoorumi – Finish Classification of Publications (Finland)

BazEkon (Poland)

BazHum (Poland)

---

## Identification and Originality

All articles published in EBER are tagged with an identification number employing the Digital Object Identifier (DOI) System.

EBER uses the Crossref Similarity Check service powered by iThenticate to verify the originality of articles submitted to the journal.



---

## Table of Contents

---

<b>Venezuelan migrants in Peru and their entrepreneurial intention during the Covid-19 pandemic</b>	<b>7</b>
Shyla Del-Aguila-Arcentales, Aldo Alvarez-Risco, Diego Villalobos-Alvarez	
<b>The role of public aid and restrictions' circumvention in SMEs' pandemic survival strategies</b>	<b>23</b>
Beata Stępień, Justyna Światowiec-Szczepańska	
<b>Entrepreneurial education, government policies and programmes, and entrepreneurial behaviour:</b>	<b>37</b>
<b>A serial moderated mediation model</b>	
Cong Doanh Duong, Krzysztof Wach, Ngoc Xuan Vu, Son Tung Ha, Bich Ngoc Nguyen	
<b>The impact of young employees' perceptions of current paid jobs on the entrepreneurial intention with the mediator of job satisfaction: The case of Vietnam</b>	<b>55</b>
Tran Thi Hong Lien, Nguyen Duy Hoang	
<b>Entrepreneurial self-efficacy among first-year undergraduates:</b>	<b>73</b>
<b>Gender, creative self-efficacy, leadership self-efficacy, and field of study</b>	
Paula Alvarez-Huerta, Alexander Muela, Inaki Larrea	
<b>Extra-industry imitation of digital platform business models</b>	<b>91</b>
Aleksandra Hauke-Lopes, Marcin Wiczerzycki, Milena Ratajczak-Mrozek	
<b>The differences in the impact of entrepreneurial abilities of various European SMEs on their financial risk perceptions</b>	<b>107</b>
Mehmet Civelek, Lukáš Durda, Zuzana Vincúrová, Tomáš Dudáš, Ivan Brezina	
<b>Material well-being as sustainable consumption driver: Results of European studies</b>	<b>125</b>
Dario Dunković, Blaženka Knežević, Barbara Borusiak	
<b>Impact of tourism development on latent entrepreneurship in BRICS</b>	<b>143</b>
Folorunsho M. Ajide	
<b>From here to eternity: An empirical analysis of the goal system of family wineries</b>	<b>155</b>
Nóra Vajdovich, Balázs Heidrich, Szilárd Németh, Krisztina Németh	

---



# Venezuelan migrants in Peru and their entrepreneurial intention during the Covid-19 pandemic

Shyla Del-Aguila-Arcentales, Aldo Alvarez-Risco, Diego Villalobos-Alvarez

## ABSTRACT

**Objective:** The article aims to understand the influence of how attitude (ATT), the perception of country support (PCS) for entrepreneurship, and entrepreneurship self-efficacy (ESE) support entrepreneurial intention (EI) among Venezuelan migrants living in Peru.

**Research Design & Methods:** In total, 305 migrants from Venezuela living in Peru completed the online questionnaire. It contained 21 items that evaluated the variables to explain the EI. In the study, we employed the partial least squares structural equation modelling (PLS-SEM) technique.

**Findings:** We found that ATT (0.591) and PCS for entrepreneurship (0.204) showed a direct and significant influence on ESE, while ESE showed a direct and significant influence (0.823) on the EI. The research model explained 67.7% of the EI. The analysis using bootstrapping technique showed the significance of the path coefficients.

**Implications & Recommendations:** Current research showed the effect of ATT and PCS on ESE, which governments and organizations can use to create plans to promote entrepreneurship among migrants.

**Contribution & Value Added:** Governments can use the study results to develop and improve new regulations to encourage entrepreneurship. The novelty of this study is the use of the PLS-SEM technique.

**Article type:** research article

**Keywords:** migrant; entrepreneurs; entrepreneurial intention; Covid-19; Venezuela; Peru

**JEL codes:** L26, L31, Q57

Received: 3 February 2022

Revised: 30 October 2022

Accepted: 2 November 2022

## Suggested citation:

Del-Aguila-Arcentales, S., Alvarez-Risco, A., & Villalobos-Alvarez, D. (2022). Venezuelan migrants in Peru and their entrepreneurial intention during the Covid-19 pandemic. *Entrepreneurial Business and Economics Review*, 10(4), 7-22. <https://doi.org/10.15678/EBER.2022.100401>

## INTRODUCTION

Latin America has had a long history of migratory flows; however, currently, it is experiencing an unparalleled exodus. The installation of a socialist model in Venezuela has been the root of this problem in that country since 2004. Venezuela is a large oil producer, thus in the beginning, the socialist model did not generate significant problems in the country's economy. Due to stable oil prices, there were no problems; however, in 2013, when oil prices fell, the current crisis began, generating a massive exodus of people. According to Aron Said and Castillo Jara (2022), this displacement was forced by severe human rights violations in Venezuela. Thus, since 2016, more than 4.6 million women, men, and children have left Venezuela, searching for a better life (ACNUR, 2022). World Bank (2019) reports that 57% of working-age Venezuelans in Peru have higher education, 8% of GDP growth in Peru in 2018 was thanks to the contribution of Venezuelans, and the productivity in Peru could increase by 3.2% if adequate policies are implemented to integrate Venezuelans immigrants. This forced migration changed the dynamic in South America, generating new workers with different backgrounds and skills. It can be argued that context has a strong influence on the situation's description; in this way, Covid-19 is a perfect example of profound changes in the context.



The world has changed its usual dynamics due to Covid-19's significant impacts. First, by April 14th, 2022, the death of 6.2 million people had been reported. Likewise, people and companies have suffered the adverse effects of Covid-19, causing damage to the health system (Rojas Román *et al.*, 2020; Zhang *et al.*, 2021), education (Agu, Stewart, McFarlane-Stewart, & Rae, 2021; Alvarez-Risco, Del-Aguila-Arcenales, Yáñez, Rosen, & Mejia, 2021), firms (Yan *et al.*, 2021), population (Quispe-Cañari *et al.*, 2021; Yáñez, Alvarez-Risco, & Delgado-Zegarra, 2020), and world economy (McKee & Stuckler, 2020; Wang & Sun, 2021).

Apart from the sanitary crisis, there is also a migratory crisis in South America, with Venezuela as the country with the highest number of migrations. Specifically, more than 1.5 million people have migrated from Venezuela to Peru (Rostros Venezolanos, 2021). Migrants face various adversities when trying to find a job to survive, because many times, they cannot find a job with their occupation. Entrepreneurship emerges as an alternative for people with little chance of finding a job in a company (Rey-Martí, Ribeiro-Soriano, & Sánchez-García, 2016). There are requirements for entrepreneurship developing in a country, including the attitude of the migrants, perception of support by the country, and entrepreneurial self-efficacy

Venezuelan forced migration has been a challenge for Peru. The high volume and speed with which these migratory waves arrived generated inevitable rejection of the population as they perceive more threats than opportunities; however, the reality is that migration offers great potential that could boost Peru's economic development. One of the keys lies in promoting migrant entrepreneurship, so several non-governmental organizations (NGOs) are directing their efforts towards this objective. Due to the significant exodus from Venezuela, Peru received more than 1.5 million migrants searching for a better quality of life and economic and social development opportunities, which they have not achieved in Venezuela due to the current humanitarian crisis. Many migrants arrive in Peru in conditions that place them in a vulnerable position, being exposed to different dangers; most migrants from Venezuela face such circumstances. At the same time, in 2020, the forced migration of Venezuelans to Peru generated approximately 35 million dollars (USD 35 million). This contribution came from consumption, that is, the collection of VAT and Income Tax (IR). This contribution was made by formal workers (Ven Informado, 2021). In this way, Venezuelans' role in the economy is also explained by their efforts as entrepreneurs.

The authors were able to recognize in the literature that some variables have been able to explain the intention of entrepreneurship; however, the literature does not present a quantitative correlational study that proposes an explanatory model for the entrepreneurial intention of Venezuelan migrants in the countries where more people have gone, such as Peru. Likewise, the partial least squares structural equation modelling (PLS-SEM) is used to evaluate the significance of the model variables and verify the value as a mediator of self-efficacy.

The PLS-SEM is used if the objective is predicting key target constructs or identifying key 'driver' constructs (Streukens & Leroi-Werelds, 2016), the structural model is complex (some constructs and some indicators), or in the case of samples that do not have a normal distribution and require a non-parametric analysis as our study (Shi, Yao, & Wu, 2019). Moreover, the PLS-SEM allows for testing the relationship and significance of the model and the role of variables mediators in the model and can handle many independent variables simultaneously (Wardana *et al.*, 2020).

The next section will detail the literature review and, after that, the hypotheses. Furthermore, we will explain the methodology, outcomes, and discussion. Lastly, we will present conclusions. It is essential to point out that promoting entrepreneurship among migrants is an excellent strategy for generating new jobs, allowing their individual and collective development, and positively contributing to the receiving country's economy.

## LITERATURE REVIEW AND HYPOTHESES DEVELOPMENT

Maj and Kubiciel-Lodziska (2020) described the entrepreneurial trends of migrants that are workers in the care sector in Poland. For this purpose, 42 migrants were assessed by snowball sampling. Some of the people who answered also commented that they wanted to start their own business soon. There

is also a study in which the formation of entrepreneurial identity was evaluated through qualitative analysis of two types of migrant entrepreneurs: Polish migrants in the USA and Vietnamese migrants in Poland. The study established that the cultural context plays a role in migrants' entrepreneurship development (Glinka & Brzozowska, 2015). Lee and Eesley (2018) found the importance of immigration in breaking the persistence of entrepreneurship among certain social groups in the United States. Moreover, it is relevant how countries can incorporate people who were already entrepreneurs in their countries of origin and who have the persistence to develop entrepreneurship. Brzozowski (2017) analysed migrant entrepreneurship in host countries. Three results of migrant economic adaptation through entrepreneurship were found: segmented assimilation, transnationalism, and provisional business project strategy. Yeasmin, Koivurova, and Kemppainen-Koivisto (2021) examined whether Social Entrepreneurship could be a way to facilitate the integration of immigrants into the Finnish labour market soon. Factors that can be considered for immigrants to realize their entrepreneurship under the mentorship of a social enterprise in the northern part of Finland were analysed. The literature on entrepreneurship among migrants is limited, but it is possible to recognize some critical articles. In cases when people flee their countries due to extreme poverty, war, or violation of human rights, the social capital that can serve as an input for the development of enterprises can be recognized in the receiving countries (Bizri, 2017). It has been reported that business incubators for forced migrants play a vital role in labour incorporation, contributing to the development of these displaced people and the receiving country's economy (Meister & Mauer, 2019). These studies allow us to contribute to policy-makers and organizations that support forced migrants (Harima, 2022).

#### **Variables:**

##### **Entrepreneurial Intention (GEI)**

The entrepreneurial intention is a person's situation that generates interest to develop a specific act (Bird, 1988; Krueger, Reilly, & Carsrud, 2000; Lumpkin & Dess, 1996). The intention for the behaviour has motivating factors over the behaviour, as the theory of planned behaviour explains (TPB) (Fishbein & Ajzen, 1975). It is considered that the intention is the previous level of concrete behaviour. The evidence shows that entrepreneurial intention directly affects the realization of entrepreneurship (Krueger *et al.*, 2000; Lumpkin & Dess, 1996).

This study considered the intention to develop entrepreneurship by Venezuelan migrants in Peru. According to the literature, different factors were identified to explain entrepreneurial intention. The need to get money to survive impacts entrepreneurial intention that ultimately becomes observable behaviour in the future. For this reason, the entrepreneurial intention must be the dependent variable of this study.

The current research was based on the theory of planned TPB (Fishbein & Ajzen, 1975) to calculate the effect of contextual variables and entrepreneurial self-efficacy. The TPB allows describing the wishes of the people to do something. It is significant to mention that TPB includes the intention as a previous step for behaviour. This research showed that if migrants perceived governmental support for entrepreneurship, it affected the ESE and increases the intention to develop entrepreneurship. Moreover, the research was based on the theory of social cognition (Bandura, 1986), which emphasizes that people's behaviour is within the individual's control. These aspects are shown in the attitude and perception of the legislation that facilitates entrepreneurship.

##### **Attitude (ATT)**

The degree to which a person has a positive evaluation of a specific behaviour (Ajzen, 1991) is known as attitude. There is evidence of a link between attitude and behaviour intention (Armitage, 2003; Chatzisarantis, Hagger, Biddle, & Smith, 2005; Krueger & Carsrud, 1993; Tonglet, Phillips, & Read, 2004). This study analysed attitudes related to self-efficacy about entrepreneurship. It was evaluated by measuring whether the person had a positive attitude towards entrepreneurial activity, whether being an entrepreneur generated satisfaction, whether being a successful person was a consequence of the activities as an entrepreneur, whether becoming an entrepreneur contributed to being their

only boss, and whether they were determined to create a new. In other words, it evaluated the attitude in favour of developing entrepreneurship.

**H1:** ATT has a direct and significant influence on ESE.

### Perception of Country Support (PCS)

It is the country's initiative to support the beginning of entrepreneurship (Fichter & Tiemann, 2018). Each country has different levels of support for entrepreneurship (Munir, Jianfeng, & Ramzan, 2019). Jafari-Sadeghi, Nkongolo-Bakenda, Dana, Anderson, and Biancone (2020), Salisu (2020), and Pulka, Ramli, and Mohamad (2021) showed that the entrepreneurial intentions of the countries had a positive and significant impact on effective entrepreneurship creation. The perception of the country's support for entrepreneurship had already been described (Alvarez-Risco, Mlodzianowska, Zamora-Ramos, & Del-Aguila-Arcentales, 2021; Peterson, 2020). The following study evaluated the perception of the support that the country regulation provided for migrant entrepreneurship. Regulation would enable people to carry out entrepreneurship plans. Furthermore, it was evaluated if migrants thought that the country's economy offered options for entrepreneurship such as obtaining loans for starting entrepreneurship.

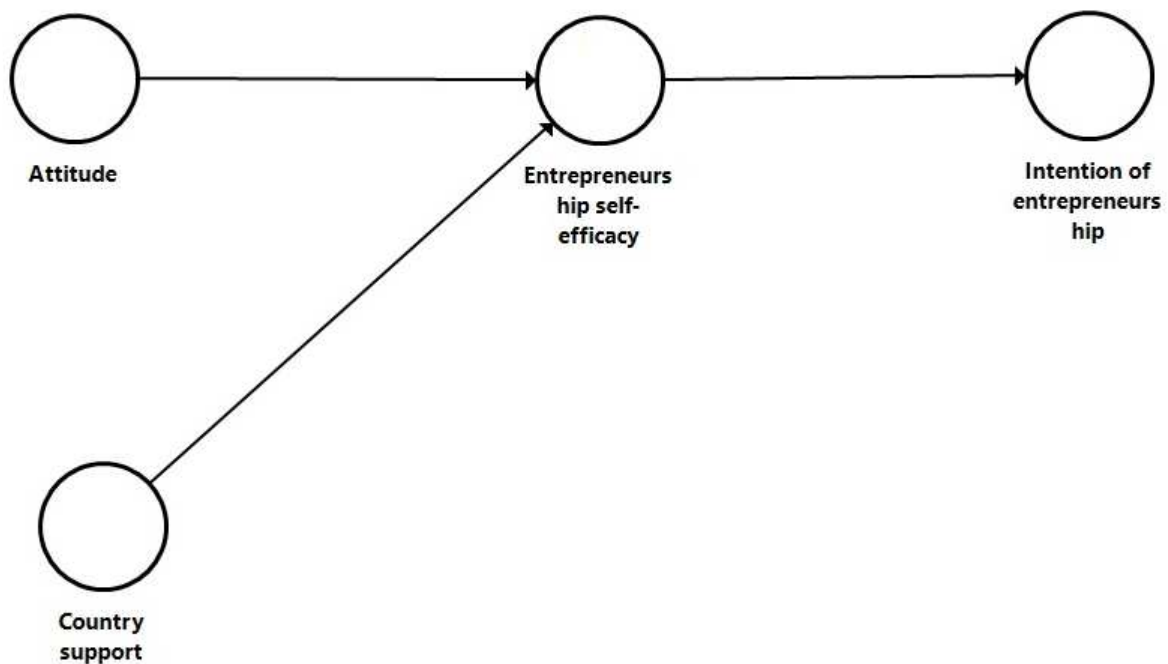
**H2:** PCS has a direct and significant influence on ESE.

### Entrepreneurial Self-efficacy (ESE)

A person's thinking about performing a particular activity can include the daily agenda's behaviour (Bandura, 1992; Chen & He, 2011; Karlsson & Moberg, 2013; Schmutzler, Andonova, & Diaz-Serrano, 2018). The ESE is a person's confidence to develop entrepreneurship and create new businesses (Dai, Wang, & Teo, 2011; Ma, Zhang, Butler, Guo, & Bozward, 2021; Poblete & Mandakovic, 2021; Zhang & Chun, 2018). Previous studies provide evidence that ESE has a direct impact on the intention of entrepreneurship (Al-Ghazali & Afsar, 2021; Duan, Kotey, & Sandhu, 2021; Wennberg, Pathak, & Autio, 2013), which represents that people with a high level of self-efficacy are more likely to create entrepreneurship.

**H3:** ESE has a direct and significant influence on EI.

The relation of the variables is shown in Figure 1.



**Figure 1. Model to be tested**

Source: own elaboration.

## RESEARCH METHODOLOGY

### Sample and Data Collection

We used an online questionnaire to collect data from Venezuelan migrants living in Peru. We used non-probabilistic sampling. We used Google Forms for an online questionnaire from 25 November to 16 December 2021, obtaining data from 305 Venezuelan migrants. The survey distribution among migrants was done using Facebook and instant messaging on WhatsApp. The questionnaire was answered by 166 men (54.42%) and 139 women (45.58%) aged 18-58 (mean: 22.03; SD: 4.11 years). For ethical aims, the participants accepted after reading sentences describing that participation in current research is voluntary, confidential, and only used for research projects. It is not necessary approval because it does not include any risks for respondents.

### Measures

The five items for attitude (ATT) were adapted from A. Alvarez-Risco, Estrada-Merino, Rosen, Vargas-Herrera, and Del-Aguila-Arcenales (2021). The  $\alpha$  was 0.931. The four items measuring perception country support (PCS) were adopted from (Alvarez-Risco, Mlodzianowska, Zamora-Ramos, & Del-Aguila, 2021). The  $\alpha$  was 0.816. The five items for entrepreneurial self-efficacy (ESE) were adopted from A. Alvarez-Risco, Mlodzianowska, García-Ibarra, Rosen, and Del-Aguila-Arcenales (2021). The  $\alpha$  was 0.861. The seven items for entrepreneurial intention (EI) were adopted from Moriano (2005) and Alvarez-Risco *et al.* (2021). The  $\alpha$  was 0.933. We used a five-point Likert scale from “strongly disagree” (1) to “strongly agree” (5).

### Data Analysis

For the data analysis, we used the SmartPLS software 3.3.3. The partial least squares structural equation modelling (PLS-SEM) allows the structural models' evaluation. Internal consistency of each subscale was calculated, construct validity, discriminant validity (Fornell & Larcker, 1981), and internal consistency (Ringle, Wende, & Becker, 2015). A good fit needed the value of the average variance extracted (AVE) to be more than 0.5.

### Reliability

It could be seen that Cronbach's alpha was more significant than 0.5 in an exploratory analysis (Ringle *et al.*, 2015). See Table 1.

**Table 1. Evaluation of internal consistency**

Variables	Items	Cronbach Alpha	Range of item values
ATT	5	0.931	0.859-0.905
PCS	4	0.816	0.588-0.897
ESE	5	0.933	0.677-0.869
EI	7	0.861	0.810-0.870

Source: own study.

### Validation and Compound Reliability

The VIF values were less than 5. The PLS-SEM was used following the analysis of Lopez-Odar, Alvarez-Risco, Vara-Horna, Chafloque-Céspedes, and Sekar (2020). The composite reliability coefficients oscillated between 0.882 and 0.947 (see Table 2).

### Discriminant Validity

Discriminant validity proves that constructs that should have no relationship do not; each construct is different from the other. The data complies with the Fornell-Larcker criterion which the top value in each column was more than the rest of the values in the same column (Lopez-Odar *et al.*, 2020). See Table 3.

**Table 2. Construct validity evaluation**

Variables – Items	Factorial weight	VIF	Composite reliability	AVE
<b>Attitude</b>				
ATT1. I have a positive attitude towards being an entrepreneur	0.859	2.896	0.947	0.783
ATT2. Being an entrepreneur would entail great satisfaction for me	0.905	2.973		
ATT3. Being an entrepreneur will make me a successful person	0.892	3.544		
ATT4. Being an entrepreneur will allow me to be my own boss	0.889	3.581		
ATT5. I am determined to create a firm in the future	0.878	3.010		
<b>Perception of country support</b>				
CSE1. My parents are positively oriented towards my future career as an entrepreneur	0.884	3.591	0.882	0.657
CSE2. My friends value entrepreneurial activity above other activities and careers	0.897	3.099		
CSE3. The culture in my country is highly favourable towards entrepreneurial activities	0.836	1.853		
CSE4. In my country, entrepreneurial activity is worthwhile, despite the risks	0.588	1.189		
<b>Entrepreneurship self-efficacy</b>				
ESE1. I will be able to achieve all the entrepreneurial goals that I have set for myself	0.839	2.225	0.900	0.646
ESE2. I will be able to deal with any unexpected events that I am confronted with	0.825	3.002		
ESE3. I am confident to engage in new ventures and ideas.	0.793	2.773		
ESE4. I remain calm when faced with difficulties because I can rely on my coping abilities.	0.869	2.508		
ESE5. I am confident that when confronted with problems I can usually find several solutions.	0.677	1.355		
<b>Entrepreneurial intention</b>				
EI1. My professional goal is to become an entrepreneur	0.818	2.414	0.946	0.714
EI2. I prefer to be an entrepreneur rather than be employed in a company	0.836	2.576		
EI3. I am interested in starting and running my own business	0.867	3.086		
EI4. I am making efforts to start my own firm	0.810	2.401		
EI5. I have the desire and ambition to succeed in business	0.870	3.172		
EI6. I want to open my own business to fulfil my family needs	0.846	2.890		
EI7. I want to start my own business to reach a higher social status	0.865	3.111		

Source: own study.

**Table 3. Discriminant validity**

Scales	ATT	PCS	ESE	EI
ATT	0.885	–	–	–
PCS	0.570	0.811	–	–
ESE	0.707	0.546	0.845	–
EI	0.607	0.541	0.823	0.804

Source: own study.

## RESULTS AND DISCUSSION

The presented results are made up of bootstrapping that shows the significance of the relationship of the model's variables. Likewise, the R Square was used to judge the model's goodness of fit. Finally, the specific indirect effects show the model's variables that act as mediators.

### Bootstrapping

It is demonstrated that the relationship between the variables is significant. For the current study, it was bootstrapped 5000 resamples that allowed to demonstrate the significance of path coefficients (see Table 4). The findings show that for each relation of scales, a p-value was less than 0.01.

Table 5 shows R Square and R Square Adjusted to judge the goodness-of-fit of the model tested. The results showed that the model had very good goodness of fit.

**Table 4. Path coefficients**

Scales	Original sample	Sample mean	Standard deviation	t-Statistic	P
ATT → ESE	0.591	0.590	0.056	10.552	0.000
PCS → ESE	0.204	0.205	0.059	3.456	0.001
ESE → EI	0.823	0.824	0.029	28.773	0.000

p-value <0.01.

Source: own study.

**Table 5. R Square**

Scales	R Square	R Square Adjusted
EI	0.677	0.676
ESE	0.528	0.525

Source: own study.

Table 6 shows the specific indirect effects in the overall model. The ESE acted as a mediator between PCS and ATT with EI. These outcomes demonstrate increased ESE due to high PCS and ATT increased EI. In other words, it is essential to increase the ESE to make influence entrepreneurial intention for future actions.

**Table 6. Specific indirect effects**

Scales	Original sample	Sample mean	Standard deviation	t-Statistic	P
PCS → ESE → EI	0.168	0.170	0.049	3.406	0.001
ATT → ESE → EI	0.486	0.486	0.051	9.494	0.000

Source: own study.

Through ESE, we confirmed that ATT and PCS had a direct and significant influence on EI in Venezuelan migrants in Peru (see Figure 2).

The findings showed that the relationship between variables was positive and significant. The hypotheses described above were confirmed (Table 7).

**Table 7. Hypothesis confirmation**

Scales	Outcome	Evaluation
H1: ATT has a direct and significant influence on ESE	ATT → ESE (0.591) (p<0.001)	Confirmed
H2: PCS has a direct and significant influence on ESE	PCS → ESE (0.204) (p<0.001)	Confirmed
H3: ESE has a direct and significant influence on EI	ESE → EI (0.823) (p<0.001)	Confirmed

Source: own study.

## Discussion

We evaluated the ATT and PCS through ESE over EI in Venezuelan migrants in Peru. It verified the discriminant validity and reliability to trust in the outcomes of the questionnaire used.

The influence of ATT on ESE agrees with the outcomes of the study by Tyszka, Cieřlik, Domurat, and Macko (2011), who evaluated 117 entrepreneurs from Poland, Karlsson, the study by Moberg (2013) who evaluated 26 participants in Denmark, and the study by Mawson and Kasem (2019), who deep-interviewed nine Syrian refugees in the UK. The ATT was discussed both in previous studies and this study, because it is a variable that can be influenced by activities in the receptor country and then can influence self-efficacy. It is priceless to know if migrants have positive regulations that allow the implementation of entrepreneurship for the government to know the factors that influence entrepreneurial intention. According to the national regulation, the policymakers need raw data to create specific programs to promote entrepreneurship. The plans of the government to promote entrepreneurship need a different approach depending on the region. There are different programs to coach migrants in developing entrepreneurship in different regions.

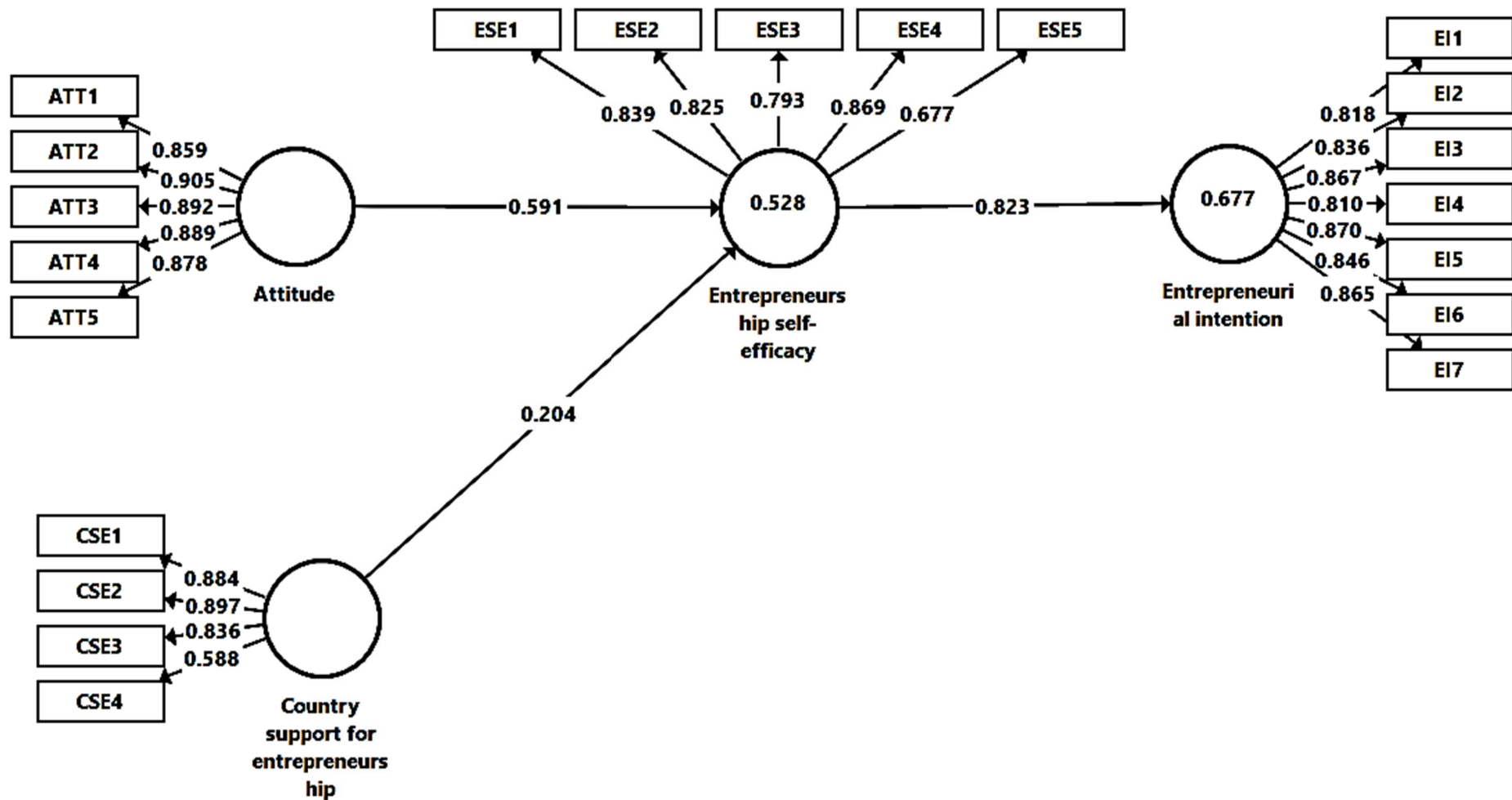


Figure 2. Model tested  
Source: own elaboration.

Globally, there are different programs aimed at generating entrepreneurship among migrants. Knowing about PCS allows the creation of specific programs to promote more entrepreneurship in migrants. Thus, there is the Immigrant Entrepreneur Program proposed by Diverse City (2021) in Canada, the e-Learning Course on Entrepreneurship for Migrants and Refugees by UNCTAD (2020), the Global Trade Activator Immigrant Program by World Trade Center Denver (2020), or Immigrant Business Services by the City of New York (2022). Moreover, it is also relevant to confirm that migrants can participate in initiatives of entrepreneurship that governments develop. Preliminary outcomes of entrepreneurship efforts can spread to migrants who can be new candidates to participate in the governmental program. Furthermore, sharing successful entrepreneurship experiences is a good strategy of the above programs through which governments can guide new entrepreneurs.

The effect of ATT on ESE was in line with the study developed by Wardana *et al.* (2020) with 390 participants in Indonesia, Jain and Ali (2013) with 134 participants in India, Bachmann, Maran, Furtner, Brem, and Welte (2021) with 98 participants in Liechtenstein, Aydogmus (2021) with 520 participants in Turkey, Yousaf, Ali, Ahmed, Usman, and Sameer (2021) with 380 participants in Pakistan. Also, the effect of PCS on ESE is like the study of Maritz and Brown (2013) with 50 participants in Australia, Elnadi and Gheith (2021) with 259 respondents in Egypt, Cavich, and Chinta (2021) with 1246 participants in the United States. Finally, the influence of ESE on EI was also described by Mei *et al.* (2017) with 280 participants, Liu, Lin, Zhao, and Zhao (2019) with 327 participants in China. The model tested can be used to evaluate ATT in migrants in other regions. In this way, when it is known what migrants think about the support of the receiving country, programs can be developed that successfully promote entrepreneurship for migrants.

## CONCLUSIONS

An essential contribution of the present study was to show that the analysed factors influence the intention to engage in entrepreneurship in migrants. The scientific literature recognizes that there are limited studies of entrepreneurship factors in migrants. The analysis technique was a strong point of the article since the effects were evaluated in the multivariate model presented using structural equation partial least squares modeling (SEM PLS). The model's independent variables had an essential effect on the self-efficacy to undertake entrepreneurship, which was the previous step for developing entrepreneurship in migrants.

### Theoretical Implications

Research related to migrant entrepreneurial intention is limited in academic literature. Specifically, there are few multivariate correlational studies on migrants to assess the variables of interest; the current study is the first to assess entrepreneurship in Venezuelan migrants in Peru using the PLS-SEM technique. In each country and region, the result may be different as there are different agendas for supporting entrepreneurship development among migrants. Concerning other studies, the research incorporated a model that included migrant perception of the support received from the government based on its regulation and initiatives aimed at migrants. Using PLS-SEM modeling, we obtained outcomes that can verify the relationship among the variables that measure the perception of government support for developing entrepreneurship in migrants. Supported by the TPB, the dependent variable was the EI. The model had the great advantage of allowing the measurement of the potential for entrepreneurship in migrants. A significant percentage of migrants are professionals working in their country and may be more likely to implement entrepreneurship to generate income for themselves and their families. The objective of measuring the EI in migrants was to confirm that this variable remained constant even compared to previous studies about migrants in other regions. At the same time, the research followed the social cognition theory with which we were able to demonstrate the critical role of ESE as an essential predictor of EI. The importance of this model lies in the fact that it is possible to show which aspect should be considered solidly so that future research can incorporate other factors that may be useful. In the case of PLS-SEM, we measured both the correlation among variables and the pathway to explain entrepreneurship in Venezuelan migrants in Peru. It would be



helpful to test the model in other countries that have many migrants, for example, Ecuador or Colombia. Moreover, it is necessary to test other variables that can affect entrepreneurial intention.

### Practical Implications

The present research results are a input for government to recognize the elements that have the most significant impact on migrants, including startups and think tank initiatives that can transmit their experience to migrants who have developed entrepreneurship activities in their countries. From the evaluation of this research model, it is possible to modify the offerings of government that seek, ideally, to provide different development options to migrants interested in developing entrepreneurship. The support that public and private organizations can supply to migrants in developing entrepreneurship is a crucial element for the propaganda towards the new migrants who arrive in the country and can recognize the organizations that support entrepreneurship as their guide through its professors and specific programs. Likewise, priorities have been recognized to promote the entrepreneurship of Venezuelan migrants in Peru (Ven Informado, 2021) such as a) Developing government policies for the economic integration of migrants in the country, b) Strengthening the integration between migrants and the host community, highlighting the positive aspects of the arrival of skilled labour, c) Strengthen the work between organizations to avoid duplication in the care of migrants d) Expand the scope and effectiveness of the care provided, e) Follow up on companies migrants to verify the effectiveness, impact on entrepreneurs, levels of growth, maintenance and desertion that are recorded after two years.

### Limitations and Future Scope

The future development of entrepreneurship among migrants should be explicitly evaluated to know the factors that affect the entrepreneurs and recognize the changes that the organizations should emphasize among migrants to develop entrepreneurship. This study was conducted only among Venezuelan migrants in Peru. As the instrument of an online survey is not representative, it is necessary to evaluate in the future a representative sample to confirm the current findings. Therefore, the conclusions should apply only to this specific group of participants. It would be valuable to test the present model in another group of migrants to check if the relationship among the variables changes. Additionally, this study should be replicated in other countries to help discern the most influential variables. Therefore, it would be possible to generate a comparison of the influences of the variables.

### REFERENCES

- ACNUR. (2022). *Venezuelan situation [Situación de Venezuela]*. Retrieved from <https://www.acnur.org/situacion-en-venezuela.html> on 4 April 2022.
- Agu, C.F., Stewart, J., McFarlane-Stewart, N., & Rae, T. (2021). COVID-19 pandemic effects on nursing education: looking through the lens of a developing country. *International Nursing Review*, 68(2), 153-158. <https://doi.org/10.1111/inr.12663>
- Ajzen, I. (1991). The theory of planned behavior. *Organizational Behavior and Human Decision Processes*, 50(2), 179-211. [https://doi.org/10.1016/0749-5978\(91\)90020-T](https://doi.org/10.1016/0749-5978(91)90020-T)
- Al-Ghazali, B.M., & Afsar, B. (2021). Narcissism and entrepreneurial intentions: The roles of entrepreneurial self-efficacy and environmental complexity. *The Journal of High Technology Management Research*, 32(1), 100395. <https://doi.org/10.1016/j.hitech.2020.100395>
- Alvarez-Risco, A., Del-Aguila-Arcentales, S., Yáñez, J.A., Rosen, M.A., & Mejia, C.R. (2021). Influence of technostress on academic performance of university medicine students in Peru during the COVID-19 pandemic. *Sustainability*, 13(16), 8949. <https://doi.org/10.3390/su13168949>
- Alvarez-Risco, A., Estrada-Merino, A., Rosen, M.A., Vargas-Herrera, A., & Del-Aguila-Arcentales, S. (2021). Factors for Implementation of Circular Economy in Firms in COVID-19 Pandemic Times: The Case of Peru. *Environments*, 8(9), 95. <https://www.mdpi.com/2076-3298/8/9/95>

- Alvarez-Risco, A., Mlodzianowska, S., García-Ibarra, V., Rosen, M.A., & Del-Aguila-Arcentales, S. (2021). Factors Affecting Green Entrepreneurship Intentions in Business University Students in COVID-19 Pandemic Times: Case of Ecuador. *Sustainability*, 13(11), 6447. <https://doi.org/10.3390/su13116447>
- Alvarez-Risco, A., Mlodzianowska, S., Zamora-Ramos, U., & Del-Aguila, S. (2021). Green entrepreneurship intention in university students: The case of Peru. *Entrepreneurial Business and Economics Review*, 9(4), 85-100. <https://doi.org/10.15678/EBER.2021.090406>
- Armitage, C.J. (2003). Beyond attitudinal ambivalence: effects of belief homogeneity on attitude-intention-behaviour relations. *European Journal of Social Psychology*, 33(4), 551-563. <https://doi.org/10.1002/ejsp.164>
- Aron Said, V., & Castillo Jara, S. (2022). Reacting to Change within Change: Adaptive Leadership and the Peruvian Response to Venezuelan Immigration. *International Migration*, 60(1), 57-76. <https://doi.org/10.1111/imig.12761>
- Aydogmus, M. (2021). Investigation of the effect of social entrepreneurship on professional attitude and self-efficacy perception: a research on prospective teachers. *Studies in Higher Education*, 46(7), 1462-1476. <https://doi.org/10.1080/03075079.2019.1673719>
- Bachmann, A.K., Maran, T., Furtner, M., Brem, A., & Welte, M. (2021). Improving entrepreneurial self-efficacy and the attitude towards starting a business venture. *Review of Managerial Science*, 15(6), 1707-1727. <https://doi.org/10.1007/s11846-020-00394-0>
- Bandura, A. (1986). *Social foundations of thought and action: A social cognitive theory*. Prentice-Hall, Inc.
- Bandura, A. (1992). Self-efficacy mechanism in psychobiologic functioning. In *Self-efficacy: Thought control of action*. (pp. 355-394). Hemisphere Publishing Corp.
- Bird, B. (1988). Implementing Entrepreneurial Ideas: The Case for Intention. *Academy of Management Review*, 13(3), 442-453. <https://doi.org/10.5465/amr.1988.4306970>
- Bizri, R.M. (2017). Refugee-entrepreneurship: a social capital perspective. *Entrepreneurship & Regional Development*, 29(9-10), 847-868. <https://doi.org/10.1080/08985626.2017.1364787>
- Brzozowski, J. (2017). Immigrant Entrepreneurship and Economic Adaptation: A Critical Analysis. *Entrepreneurial Business and Economics Review*, 5(2), 159-176. <https://doi.org/10.15678/EBER.2017.050209>
- Cavich, J. & Chinta, R. (2021). Nascent Entrepreneurs, Entrepreneurial Self-Efficacy, and the Moderators of Race, Gender, and Government Support. *Entrepreneurship Research Journal*, <https://doi.org/10.1515/erj-2020-0542>
- Chatzisarantis, N., Hagger, M., Biddle, S., & Smith, B. (2005). The stability of the attitude-intention relationship in the context of physical activity. *Journal of Sports Sciences*, 23(1), 49-61. <https://doi.org/10.1080/02640410410001730070>
- Chen, Y., & He, Y. (2011). The impact of strong ties on entrepreneurial intention. *Journal of Chinese Entrepreneurship*, 3(2), 147-158. <https://doi.org/10.1108/17561391111144573>
- City of New York. (2022). *Immigrant Business Services*. Retrieved from <https://www1.nyc.gov/nycbusiness/article/immigrant-business-initiative> on 1 January 2022.
- Dai, F., Wang, K.Y., & Teo, S.T.T. (2011). Chinese immigrants in network marketing business in Western host country context. *International Business Review*, 20(6), 659-669. <https://doi.org/10.1016/j.ibusrev.2011.02.015>
- Diverse City. (2021). *Immigrant Entrepreneur Program*. Retrieved from <https://www.dcrs.ca/our-services/employment-programs/immigrant-entrepreneur-program> on 1 January 2022.
- Duan, C., Kotey, B., & Sandhu, K. (2021). A systematic literature review of determinants of immigrant entrepreneurship motivations. *Journal of Small Business & Entrepreneurship*, 1-33. <https://doi.org/10.1080/08276331.2021.1997490>
- Elnadi, M., & Gheith, M.H. (2021). Entrepreneurial ecosystem, entrepreneurial self-efficacy, and entrepreneurial intention in higher education: Evidence from Saudi Arabia. *The International Journal of Management Education*, 19(1), 100458. <https://doi.org/10.1016/j.ijme.2021.100458>
- Fichter, K., & Tiemann, I. (2018). Factors influencing university support for sustainable entrepreneurship: Insights from explorative case studies. *Journal of Cleaner Production*, 175, 512-524. <https://doi.org/10.1016/j.jclepro.2017.12.031>

- Fishbein, M., & Ajzen, I. (1975). *Belief, attitude, intention and behavior: An introduction to theory and research*. Reading, MA: Addison-Wesley.
- Glinka, B., & Brzozowska, A. (2015). Immigrant entrepreneurs: In search of identity. *Entrepreneurial Business and Economics Review*, 3(3), 51. <https://doi.org/10.15678/EBER.2015.030304>
- Harima, A. (2022). Theorizing Disembedding and Re-Embedding: Resource Mobilization in Refugee Entrepreneurship. *Entrepreneurship & Regional Development*, 1-25. <https://doi.org/10.1080/08985626.2022.2047799>
- Jafari-Sadeghi, V., Nkongolo-Bakenda, J.-M., Dana, L.-P., Anderson, R.B., & Biancone, P.P. (2020). Home Country Institutional Context and Entrepreneurial Internationalization: The Significance of Human Capital Attributes. *Journal of International Entrepreneurship*, 18(2), 165-195. <https://doi.org/10.1007/s10843-019-00264-1>
- Jain, R., & Ali, S.W. (2013). Self-Efficacy Beliefs, Marketing Orientation and Attitude Orientation of Indian Entrepreneurs. *The Journal of Entrepreneurship*, 22(1), 71-95. <https://doi.org/10.1177/0971355712469155>
- Karlsson, T., & Moberg, K. (2013). Improving perceived entrepreneurial abilities through education: Exploratory testing of an entrepreneurial self efficacy scale in a pre-post setting. *The International Journal of Management Education*, 11(1), 1-11. <https://doi.org/10.1016/j.ijme.2012.10.001>
- Krueger, N.F., & Carsrud, A.L. (1993). Entrepreneurial intentions: Applying the theory of planned behaviour. *Entrepreneurship & Regional Development*, 5(4), 315-330. <https://doi.org/10.1080/08985629300000020>
- Krueger, N.F., Reilly, M.D., & Carsrud, A.L. (2000). Competing models of entrepreneurial intentions. *Journal of Business Venturing*, 15(5), 411-432. [https://doi.org/10.1016/S0883-9026\(98\)00033-0](https://doi.org/10.1016/S0883-9026(98)00033-0)
- Lee, Y.S., & Eesley, C. (2018). The persistence of entrepreneurship and innovative immigrants. *Research Policy*, 47(6), 1032-1044. <https://doi.org/10.1016/j.respol.2018.03.007>
- Liu, X., Lin, C., Zhao, G., & Zhao, D. (2019). Research on the Effects of Entrepreneurial Education and Entrepreneurial Self-Efficacy on College Students' Entrepreneurial Intention. *Frontiers in psychology*, 10. <https://doi.org/10.3389/fpsyg.2019.00869>
- Lopez-Odar, D., Alvarez-Risco, A., Vara-Horna, A., Chafloque-Cespedes, R., & Sekar, M.C. (2020). Validity and reliability of the questionnaire that evaluates factors associated with perceived environmental behavior and perceived ecological purchasing behavior in Peruvian consumers. *Social Responsibility Journal*, 16(3), 403-417. <https://doi.org/10.1108/SRJ-08-2018-0201>
- Lumpkin, G.T., & Dess, G.G. (1996). Clarifying the Entrepreneurial Orientation Construct and Linking It To Performance. *Academy of Management Review*, 21(1), 135-172. <https://doi.org/10.5465/amr.1996.9602161568>
- Ma, H., Zhang, Y.C., Butler, A., Guo, P., & Bozward, D. (2021). Entrepreneurial performance of new-generation rural migrant entrepreneurs in China. *International Journal of Entrepreneurial Behavior & Research*, ahead-of-print. <https://doi.org/10.1108/IJEBR-07-2020-0456>
- Maj, J., & Kubiciel-Lodzihska, S. (2020). Entrepreneurial tendencies of migrants working in the care sector in Poland. *Entrepreneurial Business and Economics Review*, 8(3), 27-46. <https://doi.org/10.15678/EBER.2020.080302>
- Maritz, A., & Brown, C. (2013). Enhancing entrepreneurial self-efficacy through vocational entrepreneurship education programmes. *Journal of Vocational Education & Training*, 65(4), 543-559. <https://doi.org/10.1080/13636820.2013.853685>
- Mawson, S., & Kasem, L. (2019). Exploring the entrepreneurial intentions of Syrian refugees in the UK. *International Journal of Entrepreneurial Behavior & Research*, 25(5), 1128-1146. <https://doi.org/10.1108/IJEBR-02-2018-0103>
- McKee, M., & Stuckler, D. (2020). If the world fails to protect the economy, COVID-19 will damage health not just now but also in the future. *Nature Medicine*, 26(5), 640-642. <https://doi.org/10.1038/s41591-020-0863-y>
- Mei, H., Ma, Z., Jiao, S., Chen, X., Lv, X., & Zhan, Z. (2017). The Sustainable Personality in Entrepreneurship: The Relationship between Big Six Personality, Entrepreneurial Self-Efficacy, and Entrepreneurial Intention in the Chinese Context. *Sustainability*, 9(9), 1649. <https://doi.org/10.3390/su9091649>
- Meister, A.D., & Mauer, R. (2019). Understanding refugee entrepreneurship incubation – an embeddedness perspective. *International Journal of Entrepreneurial Behavior & Research*, 25(5), 1065-1092. <https://doi.org/10.1108/IJEBR-02-2018-0108>

- Munir, H., Jianfeng, C., & Ramzan, S. (2019). Personality traits and theory of planned behavior comparison of entrepreneurial intentions between an emerging economy and a developing country. *International Journal of Entrepreneurial Behavior & Research*, 25(3), 554-580. <https://doi.org/10.1108/IJEBR-05-2018-0336>
- Peterson, M. (2020). Modeling country entrepreneurial activity to inform entrepreneurial-marketing research. *Journal of Business Research*, 113, 105-116. <https://doi.org/10.1016/j.jbusres.2018.11.042>
- Poblete, C., & Mandakovic, V. (2021). Innovative outcomes from migrant entrepreneurship: a matter of whether you think you can, or think you can't. *International Entrepreneurship and Management Journal*, 17(2), 571-592. <https://doi.org/10.1007/s11365-020-00705-7>
- Pulka, B.M., Ramli, A., & Mohamad, A. (2021). Entrepreneurial competencies, entrepreneurial orientation, entrepreneurial network, government business support and SMEs performance. The moderating role of the external environment. *Journal of Small Business and Enterprise Development*, 28(4), 586-618. <https://doi.org/10.1108/JSBED-12-2018-0390>
- Quispe-Cañari, J.F., Fidel-Rosales, E., Manrique, D., Mascaró-Zan, J., Huamán-Castillón, K.M., Chamorro-Espinoza, S.E., Garayar-Peceros, H., Ponce-López, V.L., Sifuentes-Rosales, J., Alvarez-Risco, A., Yáñez, J.A., & Mejía, C.R. (2021). Self-medication practices during the COVID-19 pandemic among the adult population in Peru: A cross-sectional survey. *Saudi Pharmaceutical Journal*, 29(1), 1-11. <https://doi.org/10.1016/j.jsps.2020.12.001>
- Rey-Martí, A., Ribeiro-Soriano, D., & Sánchez-García, J.L. (2016). Giving back to society: Job creation through social entrepreneurship. *Journal of Business Research*, 69(6), 2067-2072. <https://doi.org/10.1016/j.jbusres.2015.12.010>
- Ringle, C.M., Wende, S., & Becker, J.M. (2015). SmartPLS 3. *Boenningstedt: SmartPLS GmbH*.
- Rojas Román, B., Moscoso, S., Chung, S.A., Limpías Terceros, B., Álvarez-Risco, A., & Yáñez, J.A. (2020). Tratamiento de la COVID-19 en Perú y Bolivia y los riesgos de la automedicación [COVID-19; tratamiento; estrategia; fármacos; automedicación; Perú; Bolivia.]. 2020, 53(2). <http://www.revfarmacia.sld.cu/index.php/far/article/view/435>
- Rostros Venezolanos. (2021). *How many Venezuelans are there in Peru? [¿Cuántos venezolanos hay en el Perú?]*. Retrieved from <https://rostrosvenezolanos.com/cuantos-venezolanos-peru-2021-ilegales> on 1 January 2022
- Salisu, J.B. (2020). Entrepreneurial training effectiveness, government entrepreneurial supports and venturing of TVET students into IT related entrepreneurship – An indirect-path effects analysis. *Heliyon*, 6(11), e05504. <https://doi.org/10.1016/j.heliyon.2020.e05504>
- Schmutzler, J., Andonova, V., & Diaz-Serrano, L. (2018). How Context Shapes Entrepreneurial Self-Efficacy as a Driver of Entrepreneurial Intentions: A Multilevel Approach. *Entrepreneurship Theory and Practice*, 43(5), 880-920. <https://doi.org/10.1177/1042258717753142>
- Shi, L., Yao, X., & Wu, W. (2019). Perceived university support, entrepreneurial self-efficacy, heterogeneous entrepreneurial intentions in entrepreneurship education: The moderating role of the Chinese sense of face. *Journal of Entrepreneurship in Emerging Economies*, 12(2), 205-230. <https://doi.org/10.1108/JEEE-04-2019-0040>
- Streukens, S., & Leroi-Werelds, S. (2016). Bootstrapping and PLS-SEM: A step-by-step guide to get more out of your bootstrap results. *European Management Journal*, 34(6), 618-632. <https://doi.org/10.1016/j.emj.2016.06.003>
- Tonglet, M., Phillips, P.S., & Read, A.D. (2004). Using the Theory of Planned Behaviour to investigate the determinants of recycling behaviour: a case study from Brixworth, UK. *Resources, Conservation and Recycling*, 41(3), 191-214. <https://doi.org/10.1016/j.resconrec.2003.11.001>
- Tyszka, T., Cieślík, J., Domurat, A., & Macko, A. (2011). Motivation, self-efficacy, and risk attitudes among entrepreneurs during transition to a market economy. *The Journal of Socio-Economics*, 40(2), 124-131. <https://doi.org/10.1016/j.socec.2011.01.011>
- UNCTAD. (2020). *e-Learning Course on Entrepreneurship for Migrants and Refugees*. Retrieved from <https://unctad.org/es/node/26896> on 1 January 2022
- Ven Informado. (2021). *Migration in Peru: human capital with high economic potential for the country [Migración en Perú: capital humano con alto potencial económico para el país]*. Retrieved from <https://www.veninformado.pe/emprendimientos-de-migrantes> on 1 January 2022

- Wang, Z., & Sun, Z. (2021). From Globalization to Regionalization: The United States, China, and the Post-Covid-19 World Economic Order. *Journal of Chinese Political Science*, 26(1), 69-87. <https://doi.org/10.1007/s11366-020-09706-3>
- Wardana, L.W., Narmaditya, B.S., Wibowo, A., Mahendra, A.M., Wibowo, N.A., Harwida, G., & Rohman, A.N. (2020). The impact of entrepreneurship education and students' entrepreneurial mindset: the mediating role of attitude and self-efficacy. *Heliyon*, 6(9), e04922. <https://doi.org/10.1016/j.heliyon.2020.e04922>
- Wennberg, K., Pathak, S., & Autio, E. (2013). How culture moulds the effects of self-efficacy and fear of failure on entrepreneurship. *Entrepreneurship & Regional Development*, 25(9-10), 756-780. <https://doi.org/10.1080/08985626.2013.862975>
- World Bank. (2019). *Venezuelan Migration: The 4,500-Kilometer Gap Between Desperation and Opportunity*. Retrieved from <https://www.worldbank.org/en/news/feature/2019/11/26/migracion-venezolana-4500-kilometros-entre-el-abandono-y-la-oportunidad> on 2 April 2022
- World Trade Center Denver. (2020). *Could you be a candidate for our global trade activator immigrant program?*. Retrieved from <https://www.wtcdenver.org/global-trade-activator-immigrant-and-refugee-entrepreneurs> on 1 January 2022.
- Yan, J., Kim, S., Zhang, S.X., Foo, M.-D., Alvarez-Risco, A., Del-Aguila-Arcentales, S., & Yáñez, J.A. (2021). Hospitality workers' COVID-19 risk perception and depression: A contingent model based on transactional theory of stress model. *International Journal of Hospitality Management*, 95, 102935. <https://doi.org/10.1016/j.ijhm.2021.102935>
- Yáñez, J.A., Alvarez-Risco, A., & Delgado-Zegarra, J. (2020). Covid-19 in Peru: from supervised walks for children to the first case of Kawasaki-like syndrome. *BMJ*, 369, m2418. <https://doi.org/10.1136/bmj.m2418>
- Yeasmin, N., Koivurova, T., & Kemppainen-Koivisto, R. (2021). Shaping employability for immigrants through social entrepreneurship in Lapland. *Migration and Development*, 1-14. <https://doi.org/10.1080/21632324.2021.1879424>
- Yousaf, U., Ali, S.A., Ahmed, M., Usman, B., & Sameer, I. (2021). From entrepreneurial education to entrepreneurial intention: a sequential mediation of self-efficacy and entrepreneurial attitude. *International Journal of Innovation Science*, 13(3), 364-380. <https://doi.org/10.1108/IJIS-09-2020-0133>
- Zhang, S.X., Chen, J., Afshar Jahanshahi, A., Alvarez-Risco, A., Dai, H., Li, J., & Patty-Tito, R.M. (2021). Succumbing to the COVID-19 Pandemic—Healthcare Workers Not Satisfied and Intend to Leave Their Jobs. *International Journal of Mental Health and Addiction*. <https://doi.org/10.1007/s11469-020-00418-6>
- Zhang, Z., & Chun, D. (2018). Becoming entrepreneurs: how immigrants developed entrepreneurial identities. *International Journal of Entrepreneurial Behavior & Research*, 24(5), 947-970. <https://doi.org/10.1108/IJEBR-07-2016-0214>


### Authors

SDAA, AAR – conceptualization SDAA, AAR, DVA – literature review, AAR, DVA – methodology, SDAA, AAR, DVA – calculations, SDAA, AAR, DVA – discussion. The contribution of each author equals 33.33%.

#### Shyla Del-Aguila-Arcentales

Master's degree in Industrial Pharmacy (2017) from Universidad Nacional Mayor de San Marcos, Peru; Researcher at Escuela de Posgrado, Universidad San Ignacio de Loyola en Peru. Her research interests include sustainability, entrepreneurship, international business, e-commerce, and digital business.


**Correspondence to:** Shyla Del-Aguila-Arcentales, Escuela de Posgrado, Universidad San Ignacio de Loyola, Av. La Fontana 500, La Molina, Lima, Peru, email: [sdelaguila@usil.edu.pe](mailto:sdelaguila@usil.edu.pe)

**ORCID**  <http://orcid.org/0000-0002-9532-6462>

#### Aldo Alvarez-Risco

PhD in Administration (2020, Universidad Autónoma de Nuevo León, Mexico); Professor at the Career of International Business, Universidad de Lima. His research interests include sustainability, international business, entrepreneurship, and circular economy.


**Correspondence to:** Aldo Alvarez-Risco, Universidad de Lima, Avenida Javier Prado Este 4600, Santiago de Surco, Lima, Peru, email: [aralvare@ulima.edu.pe](mailto:aralvare@ulima.edu.pe)

**ORCID**  <http://orcid.org/0000-0003-0786-6555>

#### Diego Villalobos-Alvarez

Student in Psychology, Facultad de Derecho y Ciencias Humanas, Universidad Tecnológica del Perú. His research interests include sustainability, management, entrepreneurship, and circular economy.

**Correspondence to:** Diego Villalobos-Alvarez, Universidad Tecnológica del Perú, Avenida Arequipa 265, Cercado de Lima, Lima, Peru, [U19221217@utp.edu.pe](mailto:U19221217@utp.edu.pe)

**ORCID**  <http://orcid.org/0000-0001-9069-5317>

### Conflict of Interest

The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

### Copyright and License



This article is published under the terms of the Creative Commons Attribution – NoDerivs (CC BY-ND 4.0) License  
<http://creativecommons.org/licenses/by-nd/4.0/>

Published by Cracow University of Economics – Krakow, Poland



Ministry of Education and Science  
 Republic of Poland

The journal is co-financed in the years 2022-2024 by the Ministry of Education and Science of the Republic of Poland in the framework of the ministerial programme "Development of Scientific Journals" (RCN) on the basis of contract no. RCN/SP/0583/2021/1 concluded on 13 October 2022 and being in force until 13 October 2024.



# The role of public aid and restrictions' circumvention in SMEs' pandemic survival strategies

Beata Stępień, Justyna Światowiec-Szczepańska

## ABSTRACT

**Objective:** The article aims to find out what proactive or reactive actions of small and medium-sized enterprises (SMEs) helped them survive during the Covid-19 pandemic. This study focuses specifically on how the use of public aid and the restrictions' circumvention impacted the outcomes of SMEs adjustment strategies.

**Research Design & Methods:** Adjustment strategies of small and medium enterprises representing restaurant, spa & beauty, fitness, and hotel industries were investigated. The interviews with business owners were analyzed using fuzzy set qualitative comparative analysis (fsQCA) to present non-linear interdependencies between the applied measures and their outcomes.

**Findings:** Successful adjustment strategies were contained in a spectrum of proactive actions combined with the circumvention of restrictions and the use of public aid. Strategies on the verge of survival were characterized by reactive measures accompanied by the use of public aid.

**Implications & Recommendations:** Proactivity significantly boosts the probability of successful survival, but it can take both legal forms and those that by design circumvent the law.

**Contribution & Value Added:** This paper contributes to understanding the impact of public aid on adjustment strategies of small and medium-sized enterprises in the B2C sector and deepening the knowledge on the grounds of SMEs (non)compliance with restrictions. Proactive strategies can include an element of law circumvention with the simultaneous use of public aid measures.

**Article type:** research article

**Keywords:** Covid-19 pandemic; small and medium-sized enterprise strategies; circumvention of restrictions; external/public aid; fsQCA

**JEL codes:** D2, F5, G38

Received: 26 May 2022

Revised: 4 July 2022

Accepted: 1 September 2022

## Suggested citation:

Stępień, B., & Światowiec-Szczepańska, J. (2022). The role of public aid and restrictions' circumvention in SMEs' pandemic survival strategies. *Entrepreneurial Business and Economics Review*, 10(4), 23-36. <https://doi.org/10.15678/EBER.2022.100402>

## INTRODUCTION

In addition to tragic human consequences, the Covid-19 pandemic contributed to a drastic economic slowdown and subsequent significant changes in the functioning of many industries (Ding *et al.*, 2021; Song *et al.*, 2021; Mutinda Kitukutha *et al.*, 2021). Some industries, due to being in constant and close contact with consumers, experienced a prolonged blockade and significant reduction in their activities (Im *et al.*, 2021; Song *et al.*, 2021; Żak & Garncarz, 2021). Despite the state and supranational introduction of many forms of help a large number of enterprises – especially small and medium-sized ones – found themselves on the verge of bankruptcy. For many of these enterprises, external aid was either unavailable or insufficient to survive the lockdown period without undertaking additional actions to survive (Kryeziu *et al.*, 2022; Zadeh, 2022). In order to survive, some enterprises, in addition to legal adjustment measures of proactive (*e.g.* launching sales of products related to the business, online communication with consumers, etc.) or reactive nature (layoffs, sale of assets, etc.), also decided to circumvent the lockdown restrictions. The research



gap analyzed in this article was the response of small and medium-sized enterprises to the pandemic crisis and the mandate to reduce operations for biological reasons. The combinations of the adjustment actions used by SMEs remain unrecognized, both those permitted by law and those prohibited by it. We also focused on the role of public aid as an instrument that was intended to help enterprises survive the pandemic period and discourage the circumvention of restrictions

The aim of this article is to examine what types of adjustment activities in combination with the use of public aid helped small and medium-sized enterprises in the fitness, wellness & spa, hotel, and restaurant industries to adapt to the new rules of game enforced by the Covid-19 pandemic. The focus is on the role of two factors, namely public aid and restriction circumvention in the survival and adjustment strategies of SMEs in the B2C sector. The choice of these two elements was deliberate. Firstly, they are hardly analyzed in the entrepreneurship or SME literature through the prism of their impact on survival strategies. Secondly, public aid, although aimed at mitigating the effects of restrictions, has a number of serious side effects distorting the market (Friederiszick *et al.*, 2007; Garcia & Neven, 2005; Motta & Peitz, 2020). Taking it into consideration, it would be interesting to explore if there is any relation between circumventing restrictions and using aid instruments, and how these two types of actions contributed to the survival of firms during the Covid-19 pandemic.

The object of interest is small and medium-sized enterprises providing services to consumers in the fitness, beauty and spa, restaurant, and hotel industries. The selection of these enterprises for the study was also purposeful. Small and medium-sized enterprises are considered foundations of any economy in terms of their number but at the same time labelled with the liability of smallness (Eggers, 2020; Freeman *et al.*, 1983) with their crisis vulnerability stemming from their limited financial potential and access to external aid. Enterprises chosen for the study froze or significantly reduced their activities for the longest period compared to other market participants. The research was conducted in Poland: a country representing a group of catching-up economies, in which a socialist legacy distorted the way the law is perceived and obeyed.

The theoretical basis here was the institutional theory. In a situation of sudden change (such as the Covid-19 pandemic), new formal institutions are created to regulate the suddenly shaken social and economic order (Dragoi, 2020; Kinnunen *et al.*, 2021; Kopeć, 2021; Żochowski, 2021; Dementiev, 2021; Androniceanu, 2021; Streimikiene, 2022). However, both the content and consequences of these rules are difficult to predict.

The remainder of the article consists of the following sections. It will begin with presenting the nature of restrictions and public aid from the institutional perspective in order to show how these institutions impact enterprises and consumers' behaviour. We will also present empirical findings on the survival strategies of small and medium-sized firms during the crisis caused by the Covid-19 pandemic that show which actions (proactive/reactive) proved to be effective. The method section describes the surveyed enterprises and the way the data were gathered, coded, calibrated, and analyzed with fuzzy set Qualitative Comparative Analysis. The results and discussion sections will present and elaborate on a set of effective and failure adjustment strategies and analyze in detail the 'winning and losing' configurations. The double-edged effect of public aid on SME enterprises' survival success was also discussed. Conclusions will contain both theoretical and practical implications of demonstrated research and list the study limitations and further research directions.

## LITERATURE REVIEW

### **The Covid-19 Pandemic and the SMEs Survival Strategies in a Catching-up Economy**

The impact of the Covid-19 pandemic on business varied. While IT, pharmaceutical, or equipment/supplies-producing enterprises appear to have been the beneficiaries of the disaster, firms providing services in the B2C sector experienced severe lockdown-related constraints and were forced to operate in entirely new and much more difficult settings (*e.g.* Abay *et al.*, 2020; Baldwin & Mauro, 2020; Sokol & Pataccini, 2020; Žižek, 2020).

The most vulnerable to the crisis are small and medium-sized enterprises (Bartik *et al.*, 2020; Bresnan *et al.*, 2021; Gittins *et al.*, 2021; Herbane, 2010; Leiva-Leon *et al.*, 2020; Marjański & Sułkowski,

2021; Żak & Garncarz, 2020; Teja Kusuma, 2022). Due to their liability of smallness (Eggers, 2020; Freeman *et al.*, 1983) in terms of financial and human capital at their disposal, sudden and prolonged freezing of their activities puts them in danger of bankruptcy (Łasak, 2021). On the other hand, their small size and frequent retention of ownership and management in one hand allow for flexible and dynamic turns in operations, including those that may circumvent the law.

Literature focused on SMEs strategies during the crisis on the actions of small and medium-sized enterprises says little about the role the circumvention of state-imposed restrictions or public support measures played in survival (Zadeh, 2022). However, many studies show that during the crisis, these actors tend to employ mixed adaptation strategies involving a combination of i) activity/scope-reducing measures (retrenchment), ii) those sustaining status quo (persevering) and iii) proactive actions, including innovative ones that permanently change their business models and iv) exit strategies (see *e.g.* Gittins *et al.*, 2021; Kraus *et al.*, 2020; Wenzel *et al.*, 2020; Dankiewicz *et al.*, 2020). Analyzing 68 papers reporting SMEs behaviour during different types of crises, Eggers (2020) points out that successful survival strategies in the majority of cases are those of proactive nature, with a strong focus on the market and entrepreneurial orientation. This is aligned with the current strategies of competitiveness development using different forms of entrepreneurial capital and managerial systems (Lewandowska, 2021; Mishchuk *et al.*, 2022; Pizar & Mazo, 2020). Such conclusions were also drawn by researchers analyzing survival alignment strategies of enterprises during the Covid-19 pandemic (*e.g.* Dyduch *et al.*, 2021; Gittins *et al.*, 2021; Androniceanu & Marton, 2021; Kraus *et al.*, 2020; Marjański & Sułkowski, 2021; Wenzel *et al.*, 2020; Żak & Garncarz, 2020). With this in mind, we formulated the following propositions:

---

**Proposition 1:** Proactive actions prevail in the successful alignment of B2C SMEs' strategies during the Covid-19 pandemic.

---

### **The Impact of Restrictions and Public aid on SMEs Performance: The Institutional Theory Perspective**

In a crisis, such as the Covid-19 pandemic, international groups, organizations, and states reveal their major role in fighting disaster proliferation. The main instruments of the fight against the pandemic involved restricting freedom and social contact. As a result, economies got frozen which activated all sorts of aid instruments to assist businesses affected by the restrictions and help them to survive the 'freeze' period. However, the pace, scope of restrictions, and launched aid instruments have been different depending on 1) ideologies and political doctrines allowing a different scope of state influence on the economy and regulation of civil rights; 2) wealth of states; 3) regulatory efficiency of states (Dragoi, 2020; Kinnunen *et al.*, 2021; Motta & Peitz, 2020).

The institutional theory treats restrictions (both social and economic) as formal, albeit often short-term, interventional rules of the game. The effectiveness of restrictions is influenced by: 1) the content of the regulation itself describing the scope and conditions under which it applies; 2) the efficiency of the law enforcement system in a given country; 3) the extent of public approval of the restriction (Louka, 2006; Weber & Stępień, 2020).

States imposing restrictions have legal but limited influence on the behaviour of citizens and enterprises. While restrictions prohibit certain behaviours and activities within a given area, they do not regulate every aspect of social and economic activities and these outside the scope of restrictions may deform their purpose. If the content of restrictions leaves room for interpretation, some enterprises may take advantage of these loopholes, especially when the benefits of avoiding regulations outweigh the costs of violating them. This cost and loss calculus in turn depends, *inter alia*, on the extent to which the survival of the company is threatened by compliance with restrictions (Weber & Stępień, 2020). In the case of a biological crisis, such as the Covid-19 pandemic, regulations (both restrictions and public aid instruments) were introduced in a hurry, which undermined their cohesiveness, leaving room for interpretation and circumvention.

Those covered by restrictions (enterprises, citizens) bear their costs, level of which can be estimated in two ways. The first one are present and future costs of the consequences regarding compliance. The

second is the severity of the costs incurred as a result of restrictions' avoidance (Bapat & Morgan, 2009). The propensity of economic actors to comply with restrictions is also socially determined and reflected in the quality of the system of informal and normative institutions in a given place. The greater the social disapproval of restrictions, the larger the tendency of enterprises to circumvent or violate restrictions, as their customers do not mind this practice. The greater the gap between the layer of formal regulations (here: restrictions) and their social acceptance, the lower their effectiveness due to the lack of societal conformance.

In Poland, a somewhat contesting approach to Covid-19 restrictions has also its socialist legacy. During a socialist period, the gap between what was publicly proclaimed and socially approved was enormous and circumventing the formal rules served as common survival strategy for both businesses and citizens (Gruszewska, 2012; Kolodko, 2001; Stępień, 2011; Tominc & Rebernik, 2007). Considering the vulnerability of SMEs against the crisis, prompt (and therefore prone to inconsistencies) imposition of restrictions combined with the informal institutional embeddedness of legal rules contestation in post-socialist economy such as Poland, the following is assumed:

---

**Proposition 2:** Circumventing restrictions is a common adjustment measure for small and medium-sized enterprises during the Covid-19 pandemic in a country with socialist cultural legacy such as Poland.

---

In addition to bankruptcy prevention, aid instruments aimed also to induce enterprises to comply with them. The condition for receiving some forms of aid in the case of Covid-19 was that enterprises refrain from reducing employment, maintain the scope of operations, etc. (Bolesta & Sobik, 2020; Svabova et al. 2021). The receipt of aid should have discouraged enterprises from doing so under the threat of reimbursement. In this article the following assumptions, being the logical consequence of the considerations presented above, will be analyzed:

---

**Proposition 3:** Using public support serves as a prerequisite and a necessary condition for a successful adaptation strategy.

**Proposition 4:** The greater the extent of public support, the lower the level of reactive measures in survival strategies of B2C SMEs during the Covid-19 pandemic.

**Proposition 5:** The greater the scope of public assistance, the lower the level of circumvention of restrictions in survival strategies of B2C SMEs during the Covid-19 pandemic.

---

## RESEARCH METHODOLOGY

### Sample and Collected Data Nature

Given the explorative nature of the research objective, qualitative research was conducted in the form of 20 in-depth interviews with owners of consumer service enterprises. The subjects were small and medium-sized enterprises from: 1) fitness (five enterprises: three small ones, two medium-sized ones); 2) beauty and spa (four small ones, one medium-sized one); 3) restaurant (three small ones, two medium-sized ones) and 4) hotel industry (three medium-sized ones, two small ones). All enterprises had a fairly strong competitive position before the pandemic outbreak.

The choice of industries surveyed was deliberate. For all of them, the pandemic proved particularly severe due to prolonged restrictions to operate. The worst situation was recorded by the fitness industry, which – with the arrival of successive waves of the pandemic – was closed first and opened last. The three other industries were those which operations were frozen literally days after the closure of the fitness clubs. The first table presents the characteristics of the sample.

The interviews were conducted in May–July, 2021 period, hence, the adjustment strategies of investigated enterprises were no longer some chaotic moves typical to the initial stages of a disaster. This time also allowed business owners to gain a fairly objective assessment of the actions they had taken to save their businesses and survive the crisis.

**Table 2. Variables in the study**

No.	Variables (Conditions/results)	Description
1.	Proactive actions	<ul style="list-style-type: none"> <li>- launching new, mostly online forms of communication with customers about services (e.g. online fitness classes; beauty tips, renovation information, or cooking tips.),</li> <li>- opening online shops,</li> <li>- legally permitted start-up of hitherto offered off-premises services (e.g. catering with delivery, outdoor exercise),</li> <li>- launching a new activity (selling products, providing services not covered by the restrictions).</li> </ul>
2.	Passive/reactive actions	<ul style="list-style-type: none"> <li>- redundancies,</li> <li>- resignation/suspension of cooperation with natural persons employed in forms other than an employment contract,</li> <li>- the sale of certain assets,</li> <li>- taking out unfavourable loans due to the need to survive,</li> <li>- giving up part of the business to other parties,</li> <li>- leasebacks, etc.</li> </ul>
3.	External aid	<ul style="list-style-type: none"> <li>- the size and nature of the aid applied for,</li> <li>- the size and nature of the aid received by the undertakings surveyed,</li> <li>- the amount and nature of the aid which the firms under scrutiny are obliged to reimburse within the time limit set by the aid measure concerned.</li> </ul>
4.	Avoidance of restrictions	the degree and scope of efforts to circumvent or violate state-imposed restrictions.
5.	Strategic alignment (outcome)	<ul style="list-style-type: none"> <li>- the financial situation of enterprises before the pandemic – February 2020 compared to the financial situation at the time of the survey – May–July 2021,</li> <li>- changes in the company's competitive potential and position at the time of the survey as compared to its competitors,</li> <li>- assessing the impact of the measures applied, inter alia, on: <ul style="list-style-type: none"> <li>◦ the numerical and competence status of the current human potential compared to the pre-pandemic period,</li> <li>◦ the degree to which changes in organizational structure, operations, human potential are maintained,</li> <li>◦ strategic sustainability and effectiveness of newly launched activities, acquired competencies, etc.</li> </ul> </li> </ul>

Source: own study.

Additionally, to collecting the necessary metrics (age, company size, industry, location, legal form of business), the entities in the study were analyzed in terms of: the nature of the adjustment measures they had applied, the extent to which they had used industry, national, and EU support measures and the extent to which they had complied with the restrictions imposed on them. The effect of these measures was also diagnosed in terms of the current strategic position in terms of survival and further development. The collected data were the basis for the measurement of five variables, including four explanatory variables (the so-called conditions): proactive actions, passive/reactive actions, the use of public aid, circumvention of restrictions, and the response variable (so-called outcome), *i.e.* the strategic alignment of the company. The type of data collected in order to access each condition and outcome were selected on the basis of emergency measures used by SMEs during crisis (e.g. Alonso-Almeida *et al.*, 2015; Gittins *et al.*, 2021; Herbane, 2010; Kraus *et al.*, 2020; Marjański & Sułkowski, 2021; Wenzel *et al.*, 2020). A description of the variables is presented in Table 2.

#### **The Method of Analyzing Qualitative Data**

The data were analyzed using qualitative fuzzy set Qualitative Comparative Analysis (fsQCA). This method uses a configuration approach, fuzzy set theory, and Boolean minimization to determine what combinations of case characteristics may be necessary or sufficient to produce a result (Ragin, 2018) and is suitable for small research samples. Analyses using QCA have been successfully conducted in

many studies in the social sciences (Kwiatkowska, 2014; Mello, 2021), as they allow configurational analysis of the causal relationships between a group of antecedent conditions and the outcome. In this study, the fsQCA was used to test the formulated research propositions by assessing the extent to which four possible firm types of actions (causal conditions) affect the strategic alignment (outcome) of SMEs from most pandemic-affected industries.

### Data Calibration

FsQCA allows the use of continuous or interval scale variables, which must first be calibrated to be transformed into fuzzy categories or variables. In the analysis presented here, the calibration procedure was performed using the direct method, in which the threshold values of 0.2; 0.4; 0.6, and 0.8 were adopted. All original data were calibrated using a five-point scale. Their operationalization is presented in Table 3.

**Table 3. Operationalization of variables**

Variables	Measuring scale after calibration	Operationalization
Conditions (proactive measures, passive measures, public aid, circumvention of restrictions)	0 – 0.19	ranging from non-existent to very slight, of very short duration
	0.2 – 0.39	existing but as minor, a form of side-effect, complementary, instrumental, impermanent, insignificant, etc.
	0.4 – 0.59	visible, relevant, important but not central/key, in some cases could be developed, expanded
	0.6 – 0.79	used very frequently, widely, very important
	0.8 – 1.0	applied in full, everything possible, crucial, important, has been done
Result (strategic alignment)	0 – 0.19	critical situation, total failure, on the verge of bankruptcy
	0.2 – 0.39	bad situation, clearly worse than before the pandemic, survival possible but recovery will require a long time and a combination of positive indicators, including rapid growth in demand
	0.4 – 0.59	situation slightly worse than before the pandemic but stable, no risk of bankruptcy, short-term (one year) recovery very likely
	0.6 – 0.79	stable situation, in some areas even better than before the pandemic, very likely rapid recovery and development
	0.8 – 1.0	situation better than before the pandemic, developments already evident and seem long-lasting

Source: own study.

## RESULTS AND DISCUSSION

### Table of Truth

The truth table contains all possible combinations of actions introduced by investigated enterprises in their alignment strategies during the Covid-19 pandemic. A value of 1 indicates a fuzzy set membership score of 0.5 or higher, and 0 a score below 0.5. In this study, due to the small sample size, the frequency threshold was set to 1. After removing combinations with zero frequency ('logical reminders'), the truth table was sorted according to raw consistency, where the minimum recommended threshold value is 0.75 (Ragin & Davey, 2016). The Proportional Reduction in Inconsistency (PRI; relevant only for fuzzy sets) scores below 0.5 indicate significant inconsistency. In this analysis, configurations with raw consistency values below 0.945 and PRI consistency below 0.5 were assigned a value of zero (Table 4).

**Table 4. FsQCA results: truth table**

ExterAid	AvoRestri	PassivAct	ProacAct	StratAdjust	Number	Case No.	Raw consistency	PRI coherence	SYM consistency
1	1	0	1	1	3	16,17,18	0.981	0.909	0.909
1	1	0	0	1	1	7	0.980	0.857	0.857
1	0	0	1	1	1	14	0.981	0.833	0.833
0	1	0	1	1	2	1,5	0.947	0.713	0.878
1	0	1	1	1	2	9,8	0.945	0.681	0.756
0	1	0	0	0	2	3,2	0.917	0.478	0.815
1	0	0	0	0	2	13,15	0.928	0.235	0.286
0	0	0	0	0	1	4	0.891	0.167	0.167
1	0	1	0	0	3	12,10,11	0.812	0.018	0.02
0	0	1	0	0	1	20	0.841	0	0

Source: own study.

### Measures Leading to the Effective Adjustment

The results suggest three effective strategies to survive and grow for B2C SMEs in Covid-19 pandemic conditions (Table 5):

**Strategy 1:** *high level of public aid, low level of passive actions, and high level of restriction avoidance:* this strategy was applied by four enterprises (three medium-sized, one small), with three medium-sized enterprises additionally using proactive actions. Three of the four enterprises operated in the fitness industry.

**Strategy 2:** *high level of public aid, low level of restriction avoidance, and high level of proactive measures:* this was the strategy of three enterprises, with two of the three also using reactive measures; two of them were restaurants and two were medium-sized enterprises.

**Strategy 3:** *low level of passive actions, high level of restriction avoidance, and proactive actions:* this was the strategy of five enterprises: three medium-sized enterprises mentioned in option 1 and two medium-sized enterprises in the fitness and restaurant industries.

In the analysis presented here, both coherence and coverage were satisfactory, being 0.95 and 0.85 respectively. This means that the three configurations indicated above were sufficient to achieve strategic fit in 95% of cases and coverage in 85% of cases.

**Table 5. FsQCA results: Intermediate solution leading to strategic alignment**

Configurations	Raw coverage	Detailed coverage	Coherence
ExterAid*~PassivAct*AvoRestri	0.576	0.074	0.984
ExterAid*~AvoRestri*ProacAct	0.540	0.168	0.952
~PassivAct*AvoRestri*ProacAct	0.605	0.103	0.957
Coverage for the entire solution: 0.847			

Source: own study.

### Actions Leading to Potential Failure

The fsQCA technique is not symmetric unlike other quantitative estimation techniques (Ragin, 2000). It is therefore worth investigating which combinations of factors led to a lack of strategic alignment. The configurations for the negative outcome are shown in Table 6.

With 73% coverage and 84% consistency, three alternative combinations resulted in the lack of strategic alignment. These were: 1) *high levels of public aid together with low levels of restriction bypass and low levels of proactive action;* 2) *low levels of restriction bypass together with high levels of passive action and low levels of proactive action;* 3) *high levels of public aid together with low levels of restriction bypass and passive action.* While public aid and either circumvention of restrictions or proactive actions were key to achieving high levels of strategic alignment, passive actions were a feature

of low levels of strategic alignment. Public aid without bypassing restrictions also led to a lack of strategic alignment in the study sample.

**Table 6. FsQCA results: Intermediate solution leading to low strategic alignment**

Configurations	Raw coverage	Unique coverage	Coherence
ExterAid*~AvoRestrri*~ProacAct	0.669	0.064	0.922
~AvoRestrri*PassivAct*~ProacAct	0.659	0.054	0.967
ExterAid*~AvoRestrri*PassivAct	0.615	0.010	0.860
Coverage for the entire solution: 0.733			
Consistency for the whole solution: 0.846			

Notes: \*, logical AND; ~, logical negation.

Source: own study.

The concept of equifinality characterizing QCA (Kwiotkowska, 2014) directly relates to the above-described findings. They demonstrated several alternative and equally effective strategies for B2C SMEs during pandemic which lie in the spectrum of proactive actions mixed with absence of reactive measures or combination of proactive actions with bypassing restrictions or using public aid. These findings (apart from bypassing restrictions) were in line of other research examining crisis strategies of SMEs (Gittins *et al.*, 2021; Kraus *et al.*, 2020; Wenzel *et al.*, 2020).

This research revealed that proactivity during the crisis (enhancing the chance of survival) can take two forms: a legal and semi-legal one, such as restrictions' circumvention. Legal actions manifest themselves in the practical exploitation of potential and active sourcing and using available forms of public aid, while those lying on the borderline of the law allow enterprises to provide service for consumers under the umbrella of not restricted actions, such as *e.g.* providing training services on fresh air (fitness clubs), visiting consumers in their homes (spa and beauty firms), and organizing working areas in restaurants or short rehabilitation stays in hotels.

The findings demonstrated that bypassing restrictions did not necessarily exclude the use of public assistance. Moreover, the use of public funds appears here as a 'double-edged sword.' According to all the enterprises which benefited from the aid, it warded off the spectre of bankruptcy, but then it worked in two different directions. In the cases of enterprises that seem to be the winners of this crisis, external aid (or impossibility to obtain it) acted as a trigger for managerial inventiveness and thinking 'outside the box,' including bypassing restrictions. For the second group, the receipt of aid dulled their adaptation efforts or limited them mainly to reactive actions.

The presence of activities circumventing the law together with the use of public funds appears to have been one of the effective but most controversial strategies. It means that enterprises, on the one hand, benefited from compensation for complying with restrictions and violated them at the same time. Irrespective of the moral assessment, the combination of these two types of activities indicates the weakness of the enforcement apparatus (none of the enterprises analysed was sanctioned for circumventing restrictions) and the great trust in consumers, who appear as 'partners in crime' in this survival game. The research was conducted in Poland: a country where the perception and manner of obeying the law is tainted by the legacy of socialism. The latter was associated with widespread contempt for the system and its law and then social acceptance of civil disobedience. It can be assumed that the identified strategies (especially those related to the avoidance of restrictions) collected in Poland may have also occurred in post-socialist countries. However, it seems that in the so-called mature economies, solidified social systems with high levels of social capital and responsibility, corporate adjustment strategies may have been different from that observed in Poland.

The article formulated several research propositions. The obtained results of the fsQCA analysis allow referring to them and assessing their chances for empirical confirmation. Table 7 recalls the formulated propositions and indicates the status of their confirmation in the conducted research.

**Table 7. Status of support for research propositions**

Propositions	Results
<b>Proposition 1.</b> Proactive actions prevail in successful alignment B2C SMEs' strategies during the Covid-19 pandemic.	Proactive measures have been key in achieving strategic alignment for many enterprises, with public support or avoidance of restrictions playing a complementary (peripheral) role.
<b>Proposition 2.</b> Circumventing restrictions was an important behaviour of small and medium-sized enterprises in achieving strategic alignment during the pandemic.	The results obtained indicate the importance of this factor. The lack of circumvention of restrictions proved to be a causal condition in all combinations achieving low strategic alignment.
<b>Proposition 3.</b> Using public support serves as a prerequisite and a necessary condition for a successful adaptation strategy.	Public aid did not appear as a necessary condition to successfully adapt to Covid-19 pandemic reality. There are successful adaptation strategies of SMEs studied that did not use this tool.
<b>Proposition 4.</b> The greater the extent of public support, the lower the level of reactive measures in survival strategies of B2C SMEs during the Covid-19 pandemic.	The important role of public aid (along with circumvention of restrictions) occurred in the absence of passive actions, what implies that public aid discouraged reactive actions in the pursuit of strategic alignment under the new conditions.
<b>Proposition 5.</b> The greater the scope of public assistance, the lower the level of circumvention of restrictions in survival strategies of B2C SMEs during the Covid-19 pandemic.	Results show the opposite relationship. Public aid together with circumvention of restrictions has been an effective means of adjustment among some SMEs.

Source: own study.

## CONCLUSIONS

Summarizing, SMEs' survival strategies in the face of demise took different combinations of proactive and reactive measures, some of them regarded semi-legal. The research revealed several paths leading to the strategic alignment of enterprises in pandemic reality but the probability to succeed was much lower when SMEs employed only reactive measures in order to survive. Results clearly demonstrate that proactivity significantly boosts the probability of successful survival and are in line of other empirical research in this area (Alonso-Almeida *et al.*, 2015; Gittins *et al.*, 2021; Herbane, 2010; Kraus *et al.*, 2020; Seeger *et al.*, 2005; Wenzel *et al.*, 2020; etc.). The added value of the presented research is the disentangling of proactivity strategies into a variety of measures, part of which may take the form of circumventing or exploiting the law. This gives proactivity a different overtone; albeit legal and effective yet, socially and morally questionable.

The research showed that the circumvention of restrictions, combined with the use of public aid, was an effective adjustment strategy for the SMEs studied. In this respect, results suggest a more nuanced approach to the discussion on the scope of legal regulations and their impact on business activity, both from a neo-liberal and policy perspective (Williams & Martinez, 2014). The combination of activities circumventing the law with the simultaneous use of public aid by the surveyed entities indicates that economic reality is a sphere where at the same time there can be too much restrictive and too little supporting law for enterprises during crisis.

The research examined small and medium-sized enterprises that bypassed restrictions to increase their likelihood of survival. In authors' view, this is a good addition to the research presented by Kubinec *et al.* (2021), in which large enterprises operating in the so-called catching-up economies (Ukraine, Egypt, Venezuela) bypassed pandemic restrictions because they were politically favoured. In this study, circumvention took place in SMEs and the rationale for this was not connections to the authorities but an inefficient enforcement apparatus combined with consumer consent to participate in this semi-legal game.

The article adopted an institutional perspective of viewing the behaviour of enterprises during the crisis, paying particular attention to the attitude of these entities to interventionist formal institutions (restrictions and instruments of public aid). The results confirmed that enterprises' behaviour towards institutions was tightly conditioned by their historical legacy and cultural heritage (see *e.g.* Jepperson



& Meyer, 2021). In countries that have undergone relatively recent major transformational changes and social values and norms do not yet fit a formal institutional framework, bypassing the law will be a phenomenon not only more common but not yet socially condemned.

Another contribution to the institutional theory is the insight into the complex face of public aid impact on enterprises' behaviour during crisis. In this research, it appears as a necessary but peripheral tool of survival for the surveyed enterprises. Moreover, the receipt of aid does not unequivocally eliminate the circumvention of restrictions but deters reactive actions. The results of the survey clearly indicated that public aid and assistance for small and medium-sized enterprises was inadequate; its' level did not guarantee survival while adjusting to restrictions and freezing operations. Faced with inadequate or unavailable public assistance, enterprises faced the choice of complying with restrictions and the real spectre of bankruptcy or seeking ways to circumvent the bans to survive.

### Limitations, Future Research Areas, and Practical Implications

The study is not free from limitations. Firstly, results come from the small research sample and do not allow for generalizations, but rather call for future, quantitative study in the areas of i) the role of trust between the consumers and B2C SMEs in conducting semi-legal operations in catching up vs mature capitalist economies, ii) comparative studies of the scope and nature of restrictions circumvention in these two groups of countries, iii) the interplay between the ease, scope of public aid and the level of restrictions' circumvention. Despite the evident limitation regarding the nature of qualitative explorative studies, the used method of data analysis (fsQCA) made it possible to increase the quality of analysis and conclusions.

Based on the obtained results, several managerial and political conclusions can be drawn. The main managerial implication for SMEs is the focus on innovative proactive measures in their strategies, as they raised the probability of long-term survival and business model adjustment.

Research indicates that despite the limitations of the so-called liability of smallness, small and medium-sized enterprises have the ability to react quickly to sudden changes and proactively adapt. This agility is likely derived from simple and flexible organizational structures and the concentration of managerial and ownership power. This is a hint to larger enterprises that in some of their divisions directly cooperating with customers or other stakeholders, the management should resemble the structures and way small enterprises operate.

At the level of law-making and enforcement, there is an urgent need for an effective mechanism to design and implement economic and social constraints in crises at the level of states and international groupings, as restrictions prove effective only when they are unambiguous, impossible to circumvent and inevitable (*i.e.* the enforcement apparatus is functional). The restrictions enforcement should also go in hand with the introduction of public aid but such assistance should reach those most affected and allow these entities to survive without having to resort to actions that circumvent the law.

### REFERENCES

- Abay, K.A., Tafere, K., & Woldemichael, A. (2020). Winners and losers from COVID-19: Global evidence from Google Search. *Policy Research Working Paper*, 9268. World Bank, Washington, DC. Retrieved from <https://openknowledge.worldbank.org/handle/10986/33852> on November 10, 2021.
- Alonso-Almeida, M.D.M., Bremser, K., & Llach, J. (2015). Proactive and reactive strategies deployed by restaurants in times of crisis: Effects on capabilities, organization and competitive advantage. *International Journal of Contemporary Hospitality Management*, 27(7), 1641-1661. <https://doi.org/10.1108/IJCHM-03-2014-0117>
- Androniceanu, A. (2021). Transparency in public administration as a challenge for a good democratic governance. *Administratie si Management Public*, 36, 149-164. <https://doi.org/10.24818/amp/2021.36-09>
- Androniceanu, A., & Marton, D.- M., (2021). The psychosocial impact of the Romanian government measures on the population during the COVID-19 pandemic. *Central European Public Administration Review*, 19(1), 7-32.
- Baldwin, R., & Di Mauro, B.W. (2020). *Economics in the Time of COVID-19*, a VoxEU.org eBook, CEPR Press.
- Bapat, N.A., & Morgan, T.C. (2009). Multilateral versus unilateral sanctions reconsidered: A test using new data. *International Studies Quarterly*, 53(4), 1075-1094. <https://doi.org/10.1111/j.1468-2478.2009.00569.x>

- Bartik, A.W., Bertrand, M., Cullen, Z., Glaeser, E.L., Luca, M., & Stanton, C. (2020). The impact of COVID-19 on small business outcomes and expectations. *Proceedings of the National Academy of Sciences*, 117(30), 17656-17666. <https://doi.org/10.1073/pnas.2006991117>
- Bolesta, K., & Sobik, B. (2020). Analysis of anti-crisis measures during the COVID-19 pandemic in European countries. *Zeszyty Naukowe Polskiego Towarzystwa Ekonomicznego w Zielonej Górze*, 13, 18-30.
- Bressan, A., Alonso, A.D., & Kok, S.K. (2021). Confronting the unprecedented: micro and small businesses in the age of COVID-19. *International Journal of Entrepreneurial Behavior and Research*, 27(3), 799-820. <https://doi.org/10.1108/IJEBR-09-2020-0602>
- Dankiewicz, R., Ostrowska-Dankiewicz, A., & Bulut, C. (2020). The attitudes of entrepreneurs of the small and medium-sized enterprises sector in Poland to key business risks. *Equilibrium. Quarterly Journal of Economics and Economic Policy*, 15(3), 511-536. <https://doi.org/10.24136/eq.2020.023>.
- Dementiev, E.V. (2021). Why Countries Differ Greatly in the Effects of COVID-19. *Montenegrin Journal of Economics*, 17(4), 55-63. <https://doi.org/10.14254/1800-5845/2021.17-4.5>
- Ding, W., Levine, R., Lin, C., & Xie, W. (2021). Corporate immunity to the COVID-19 pandemic. *Journal of Financial Economics*, 141(2), 802-830.
- Dragoi, A.E. (2020). Supporting the EU Economy through State Aid during COVID-19 Crisis. A Comparative Approach. *Global Economic Observer*, 8(1), 11-18.
- Dyduch, W., Chudziński, P., Cyfert, S., & Zastempowski, M. (2021). Dynamic capabilities, value creation and value capture: Evidence from SMEs under Covid-19 lockdown in Poland. *Plos one*, 16(6), e0252423. <https://doi.org/10.1371/journal.pone.0252423>
- Eggers, F. (2020). Masters of disasters? Challenges and opportunities for SMEs in times of crisis. *Journal of Business Research*, 116, 199-208. <https://doi.org/10.1016/j.jbusres.2020.05.025>
- Freeman, J., Carroll, G.R., & Hannan, M.T. (1983). The Liability of Newness: Age Dependence in Organizational Death Rates. *American Sociological Review*, 48(5), 692-710. <https://doi.org/10.2307/2094928>
- Friederiszick H.W., Roeller L.-H., & Verouden, V. (2007). European State Aid Control: An Economic Framework. In P. Buccirossi (Ed.). *Handbook of Antitrust Economics* (pp. 625-669). MIT Press.
- Garcia, J.A., & Neven, D. (2005). *State aid and distortion of competition, a benchmark model*. HEI.
- Gittins, T., Freész, G., & Huszák, L. (2022, forthcoming). The response of Hungarian SMEs to the Covid 19 pandemic: a Resilience Adaption Model. *Journal of Eastern European Management Studies*. (Special Issue: Challenges of Management in the COVID-19 Reality), 49-70.
- Gruszevska, E. (2012). Transformacja instytucji nieformalnych w Polsce. *Gospodarka Narodowa. The Polish Journal of Economics*, 254(3), 61-83. <https://doi.org/10.33119/GN/101017>
- Herbane, B. (2010). Small business research: Time for a crisis-based view. *International Small Business Journal*, 28(1), 43-64. <https://doi.org/10.1177/0266242609350804>
- Im, J., Kim, H., & Miao, L. (2021). CEO letters: Hospitality corporate narratives during the COVID-19 pandemic. *International Journal of Hospitality Management*, 92 [102701]. <https://doi.org/10.1016/j.ijhm.2020.102701>
- Jepperson, R.L., & Meyer, J.W. (2021). *Institutional Theory: The Cultural Construction of Organizations, States, and Identities*. Cambridge University Press.
- Kinnunen, J., Georgescu, I., Hosseini, Z., & Androniceanu, A.-M. (2021). Dynamic indexing and clustering of government strategies to mitigate Covid-19. *Entrepreneurial Business and Economics Review*, 9(2), 7-19.
- Kolodko, G.W. (2001). Globalization and catching-up: from recession to growth in transition economies. *Communist and Post-Communist Studies*, 34(3), 279-322.
- Kopeć, A. (2021). Pomoc publiczna w dobie pandemii COVID-19. *Internetowy Kwartalnik Antymonopolowy i Regulacyjny*, 10(1), 81-99.
- Kraus, S., Clauss, T., Breier, M., Gast, J., Zardini, A., & Tiberius, V. (2020). The economics of COVID-19: initial empirical evidence on how family firms in five European countries cope with the corona crisis. *International Journal of Entrepreneurial Behavior & Research*, 26(5), 1067-1092. <https://doi.org/10.1108/IJEBR-04-2020-0214>
- Kryeziu, L., Bağış, M., Kurutkan, M.N., Krasniqi, B.A., & Haziri, A. (2022). COVID-19 impact and firm reactions towards crisis: Evidence from a transition economy. *Journal of Entrepreneurship, Management, and Innovation*, 18(1), 169-196. <https://doi.org/10.7341/20221816>

- Kubinec, R., Lee, H.N.K., & Tomashevskiy, A. (2021). Politically connected companies are less likely to shutdown due to COVID-19 restrictions. *Social Science Quarterly*, 102(5), 2155-2169. <https://doi.org/10.1111/ssqu.13040>
- Kwiotkowska, A. (2014). Qualitative comparative analysis as a methodological concept in management sciences. *Prace Naukowe Uniwersytetu Ekonomicznego we Wrocławiu*, 340, 65-77.
- Leiva-Leon, D., Perez-Quiros, G., & Rots, E. (2020). The Global Weakness Index—reading the economy's vital signs during the COVID-19 crisis. *ECB Research Bulletin*, 72, Retrieved from <https://www.ecb.europa.eu/pub/economic-research/resbull/2020/html/ecb.rb200619~1593190f55.en.pdf> on November 20, 2021.
- Lewandowska, A. (2021). Interactions between investments in innovation and SME competitiveness in the peripheral regions. *Journal of International Studies*, 14(1), 285-307. doi:10.14254/2071-8330.2021/14-1/20
- Louka, E. (2006). *Międzynarodowe prawo ochrony środowiska: sprawiedliwość, skuteczność i porządek światowy*. Cambridge University Press.
- Łasak, P. (2022). The role of financial technology and entrepreneurial finance practices in funding small and medium-sized enterprises. *Journal of Entrepreneurship, Management, and Innovation*, 18(1), 7-34. <https://doi.org/10.7341/20221811>.
- Marjański, A., & Sułkowski, Ł. (2021). Consolidation strategies of small family firms in Poland during Covid-19 crisis. *Entrepreneurial Business and Economics Review*, 9(2), 167-182. <https://doi.org/10.15678/EBER.2021.090211>
- Mello, P.A. (2021). *Qualitative Comparative Analysis: An Introduction to Research Design and Application*. Georgetown University Press.
- Mishchuk, H., Štofková, J., Krol, V., Joshi, O., & Vasa, L. (2022). Social Capital Factors Fostering the Sustainable Competitiveness of Enterprises. *Sustainability*, 14(19), 11905. <https://doi.org/10.3390/su141911905>
- Motta, M., & Peitz, M. (2020). State Aid Policies in Response to the COVID-19 Shock: Observations and Guiding Principles. *Intereconomics*, 55(4), 219-222.
- Mutinda Kitukutha, N., Vasa, L., & Oláh, J. (2021). The Impact of COVID-19 on the economy and sustainable e-commerce. *Forum Scientiae Oeconomia*, 9(2), 47-72. [https://doi.org/10.23762/FSO\\_VOL9\\_NO2\\_3](https://doi.org/10.23762/FSO_VOL9_NO2_3)
- Pisar, P., & Mazo, M. E. (2020). Controlling, communication and corporate culture – the opportunity for SMEs. *Economics and Sociology*, 13(3), 113-132. doi:10.14254/2071-789X.2020/13-3/8
- Ragin, C.C. (2000). *Fuzzy-Set Social Science*. The University of Chicago Press.
- Ragin, C.C. (2018). *User's Guide to Fuzzy-Set/Qualitative Comparative Analysis*. Irvine: Department of Sociology, University of California.
- Ragin, C.C., & Davey, S. (2016). *Fuzzy-Set/Qualitative Comparative Analysis*. Irvine: Department of Sociology, University of California.
- Seeger, M.W., Ulmer, R.R., Novak, J.M., & Sellnow, T. (2005). Post-crisis discourse and organizational change, failure and renewal. *Journal of Organizational Change Management*, 18(1), 78-95. <https://doi.org/10.1108/09534810510579869>
- Sokol, M., & Pataccini, L. (2020). Winners and losers in coronavirus times: Financialisation, financial chains and emerging economic geographies of the COVID-19 pandemic. *Tijdschrift voor economische en sociale geografie*, 111(3), 401-415. <https://doi.org/10.1111/tesg.12433>
- Song, H.J., Yeon, J., & Lee, S. (2021). Impact of the COVID-19 pandemic: Evidence from the US restaurant industry. *International Journal of Hospitality Management*, 92[102702]. <https://doi.org/10.1016/j.ijhm.2020.102702>
- Stępień, B. (2011). Rola instytucji nieformalnych w kształtowaniu ładu gospodarczego-przykład transformacji w Polsce. *Zeszyty Naukowe/Uniwersytet Ekonomiczny w Poznaniu*, 190, 325-343.
- Streimikiene, D. (2022). COVID-19 effect on energy poverty: Lithuanian case study. *Montenegrin Journal of Economics*, 17(4), 215-223. <https://doi.org/10.14254/1800-5845/2022.18-1.18>
- Svabova, L., Tesarova, E. N., Durica, M., & Strakova, L. (2021). Evaluation of the impacts of the COVID-19 pandemic on the development of the unemployment rate in Slovakia: counterfactual before-after comparison. *Equilibrium. Quarterly Journal of Economics and Economic Policy*, 16(2), 261-284. <https://doi.org/10.24136/eq.2021.010>.
- Teja Kusuma, G. A., Setia Sapta, I. K., Dauh Wijana, I. M., Paulus Tahu, G., & Putu Indiani, N. L. (2022). Building SMEs' passion for utilising digital media: a study of SMEs during the COVID-19 pandemic. *Forum Scientiae Oeconomia*, 10(3), 151-168. [https://doi.org/10.23762/FSO\\_VOL10\\_NO3\\_8](https://doi.org/10.23762/FSO_VOL10_NO3_8)


- Tominc, P., & Rebernik, M. (2007). Growth aspirations and cultural support for entrepreneurship: A comparison of post-socialist countries. *Small Business Economics*, 28(2), 239-255. <http://www.jstor.org/stable/40229529>
- Weber, P.M., & Stępień, B. (2020). Conform or challenge? Adjustment strategies of sanction-torn companies. *The World Economy*, 43(11), 3006-3024. <https://doi.org/10.1111/twec.12985>
- Wenzel, M., Stanske, S., & Lieberman, M.B. (2020). Strategic responses to crisis. *Strategic Management Journal*, 42(2), O16-O27. <https://doi.org/10.1002/smj.3161>
- Zadeh, F. G. (2022). Entrepreneurship and SMEs under COVID-19 crisis: A literature review. *International Entrepreneurship Review*, 8(3), 23-35. <https://doi.org/10.15678/IER.2022.0803.02>
- Williams, C.C., & Martinez, A. (2014). Entrepreneurship in the informal economy: a product of too much or too little state intervention? *The International Journal of Entrepreneurship and Innovation*, 15(4), 227-237.
- Żak, M., & Garncarz, J. (2020). Coronavirus epidemic management and economic policy towards the challenges associated with the COVID-19 epidemic in selected European Union countries. *International Entrepreneurship Review*, 6(4), 21-34. <https://doi.org/10.15678/IER.2020.0604.02>
- Żochowski, W. (2021). Pomoc publiczna dla przedsiębiorców przed oraz w okresie trwania pandemii COVID-19. *Pracownik i Pracodawca*, 6(1), 67-82.
- Žižek, S. (2020). *Pandemic! COVID-19 shakes the world*. OR Books.

### Authors

The contribution share of authors is equal and amounted to 50% for each of them. BS – conceptualisation, literature writing, discussion, conclusions, JSS – methodology, calculations, discussion.


#### Beata Stępień

Prof. dr hab., professor, tenure, Department of International Management Poznan University of Economics and Business, Poland. Her research interests include international business, institutional theory, consumer theory.

**Correspondence to:** Prof. dr hab. Beata Stępień, Department of International Management Poznan University of Economics and Business. Al. Niepodległości 10, 61-875 Poznan, Poland, e-mail: beata.stepien@ue.poznan.pl  
**ORCID**  <http://orcid.org/0000-0002-0488-1146>

#### Justyna Światowiec-Szczepańska

Dr hab., prof. PUEB, tenure, Department of International Finance, Poznan University of Economics and Business, Poland. Her research interests include international finance, strategic management, corporate governance.

**Correspondence to:** Prof. UEP, dr hab. Justyna Światowiec-Szczepańska, Department of International Finance, Poznan University of Economics and Business. Al. Niepodległości 10, 61-875 Poznan, Poland, e-mail: justyna.swiatowiec-szczepanska@ue.poznan.pl  
**ORCID**  <http://orcid.org/0000-0002-4112-7695>

### Acknowledgements and Financial Disclosure

The project was financed within the Regional Initiative for Excellence programme of the Minister of Science and Higher Education of Poland, years 2019 – 2022, grant No. 004/RID/2018/19 financing 3,000,000 PLN.

### Conflict of Interest

The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

### Copyright and License



This article is published under the terms of the Creative Commons Attribution – NoDerivs (CC BY-ND 4.0) License  
<http://creativecommons.org/licenses/by-nd/4.0/>

Published by Cracow University of Economics – Krakow, Poland



Ministry of Education and Science  
Republic of Poland

The journal is co-financed in the years 2022-2024 by the Ministry of Education and Science of the Republic of Poland in the framework of the ministerial programme “Development of Scientific Journals” (RCN) on the basis of contract no. RCN/SP/0583/2021/1 concluded on 13 October 2022 and being in force until 13 October 2024.

# Entrepreneurial education, government policies and programmes, and entrepreneurial behaviour: A serial moderated mediation model

Cong Doanh Duong, Krzysztof Wach, Ngoc Xuan Vu, Son Tung Ha, Bich Ngoc Nguyen

## ABSTRACT

**Objective:** The research aims to adopt a serial moderation mediation model to investigate the serial indirect effects of entrepreneurial education and the moderation impacts of entrepreneurial government policies and programmes on entrepreneurial attitude-intention-behaviour links and tighten the attitude-intention-behaviour gap in the entrepreneurial area.

**Research Design & Methods:** A sample of 802 master students from nine universities/institutions in Vietnam and structural equation modelling (SEM) were employed to test developed hypotheses.

**Findings:** The research demonstrates that attitude towards entrepreneurship played a more important role than entrepreneurial intention in sculpting start-up behaviour. Entrepreneurial education not only has direct effects on entrepreneurial attitudes and behaviours, but it also has serial mediation effects on entrepreneurial behaviour via two mediators, including entrepreneurial attitudes and intention. Moreover, entrepreneurial government policies and programmes were found to significantly reinforce the entrepreneurial attitude-intention-behaviour linkages.

**Implications & Recommendations:** The findings of this research offer valuable insights for policymakers and practitioners who wish to encourage individuals' entrepreneurial activities.

**Contribution & Value Added:** The research is expected to significantly contribute to entrepreneurship literature by indicating the serial mediation effects of entrepreneurial education on entrepreneurial behaviour, the moderation impacts of entrepreneurial government policies and programmes, and closing the entrepreneurial attitude-intention-behaviour gap.

**Article type:** research article

**Keywords:** entrepreneurial behaviour; entrepreneurial intention; entrepreneurial education; government policies and programmes; start-up;

**JEL codes:** L26, M13

Received: 14 July 2022

Revised: 26 November 2022

Accepted: 15 December 2022

## Suggested citation:

Duong, C.D., Wach, K., Vu, N.X., Ha, S.T., & Nguyen, B.N. (2022). Entrepreneurial education, government policies and programmes, and entrepreneurial behaviours: A serial moderated mediation model. *Entrepreneurial Business and Economics Review*, 10(4), 37-54. <https://doi.org/10.15678/EBER.2022.100403>

## INTRODUCTION

Nowadays, new business venture creation has received widespread interest among scholars, educators, practitioners, and policymakers, because it has been determined as the crucial factor that contributes to the social and economic development of a nation (Bach *et al.*, 2022; Laouiti *et al.*, 2022; Skalická *et al.*, 2023). Thus, entrepreneurial education and entrepreneurial government policies and programmes have been advanced as important strategies to inspire individuals' entrepreneurial activities (Cong *et al.*, 2022; Duong, 2021; Elnadi & Gheith, 2021; ). While entrepreneurial education inculcates start-up knowledge and practical start-up skills in students' minds, thereby

inspiring them to engage in entrepreneurial preferences (Maheshwari & Kha, 2021; Court & Arikekpar, 2022; Uansa-ard & Wannamakok, 2022), entrepreneurial government policies and programmes can help foster the conversion of entrepreneurial attitude into start-up intentions and then turn into actual entrepreneurial behaviours (Salisu, 2020).

The decision to create a new business venture, which is identified as the heart of the entrepreneurial process, is affected by a body of different factors (Duong, 2022; Maheshwari & Kha, 2021; Civelek *et al.*, 2021a). Indeed, while some studies argue that entrepreneurial behaviour is affected by personal perception, such as entrepreneurial fear of failure (Duong, 2022), and big-five personality traits (Laouiti *et al.*, 2022), others claim that it is influenced by environmental and contextual factors, such as university entrepreneurial environment (Calza *et al.*, 2020), and organizational and environmental factors (Meoli *et al.*, 2021) and cultural values (Calza *et al.*, 2020). However, almost all current studies state that entrepreneurial attitude and intentions are considered the most important predictors of entrepreneurial behaviour (*e.g.*, Calza *et al.*, 2020; Cui & Bell, 2022; Duong, 2022).

Even though the direct effect of entrepreneurship education on start-up attitudes and intentions has been considered in recent studies (*e.g.*, Duong, 2021; Maheshwari, 2022; Maheshwari & Kha, 2021), we have little knowledge about how it had a serial indirect effect on entrepreneurial behaviour via two mediators, such as entrepreneurial attitudes and intentions. Moreover, entrepreneurial government policies and programmes relate to the provision of essential resources based on the governments' capacity to offer the necessary support for fostering entrepreneurial activities, such as establishing and developing favourable entrepreneurial ecosystems, financial funding programmes, removing and decreasing the barriers for nascent entrepreneurs (Elnadi & Gheith, 2021). Yet, the critical role of entrepreneurial government policies and programmes on the start-up process, which started from a favourable attitude towards engagement in entrepreneurial activities to developing entrepreneurial intention, and then becoming actual start-up behaviour, seems to be neglected by previous studies (Androniceanu *et al.*, 2022; Nguyen, 2021; Salisu, 2020).

Therefore, this research aims to adopt a serial moderated mediation model to make theoretical contributions to the present literature in the entrepreneurial area. Firstly, our research is among the first to estimate the serial indirect influence of entrepreneurial education on entrepreneurial behaviour via two mediators, including attitude towards involvement in entrepreneurial activities and intention to become entrepreneurs. Secondly, this research closes the entrepreneurial attitude-intention-behaviour gap in the entrepreneurship area. Finally, the research tests the moderating impacts of entrepreneurial government policies and programmes on the entrepreneurial attitude-intention-behaviour linkage.

## LITERATURE REVIEW

### **New Venture Creation: The Attitude-intention-behaviour Gap**

Although originating in social psychology, intention-based models have been widely adopted in entrepreneurship studies (Adelowo *et al.*, 2021). Based on these models, future behaviour can be predicted, which is essential, not only for managers and economic analysts but also for policymakers in charge of developing an adequate supporting system in favour of entrepreneurship. The concept of general behavioural intention has been applied to the analysis of entrepreneurial intentions, defined by Thompson (2009) as a self-perceived belief that one intends to create a new firm and consciously plans to complete this process in the future. Very similarly, Krueger (1993) defines start-up intention as the inclination and possession of the potential to create one's own business. In our research, the concept of entrepreneurial behaviour has been adapted from the research of Gieure *et al.* (2020), which means that start-up behaviour refers to the capacity or knowledge about an enterprise's constituent dimensions. It is regarded as an individual's know-how and essential understanding that will enable him/her to carry out entrepreneurial actions. Thus, it reflects the attained ability and knowledge that can drive a potential entrepreneur to the stage of developing a business and trying to create a new venture (Duong, 2022; Dankiewicz *et al.*, 2020).

Using the theory of planned behaviour (TPB) developed by Ajzen (1987; 1991), which is a grounded psychological concept that dates back to the 1980s, enables us to comprehend mechanisms that drive

the entrepreneurial intentions of a person. Following Ajzen's (1987) concept, an individual's behaviour is predicted by their behavioural intention and their behavioural intentions originated from three antecedents: (i) what attitude individuals have towards performing a specific action, (ii) what perception individuals have regarding controlling of a particular action, and (iii) the social norms that mould the perception of the specific action. Two factors, namely the attitude we have towards the behaviour (or rather the outcomes associated with the behaviour) and our perception of social norms towards the behaviour, capture the desirability of the behaviour occurring. On the other hand, the third factor expresses personal perceptions of the ability to control the behaviour and is synonymous with self-efficacy. The TPB is reported to be one of the most popular theoretical conceptualizations of entrepreneurial intentions. Most prior studies only endeavoured to explain the determinants of entrepreneurial intentions (Duong, 2021; Maheshwari, 2022). That is a reason why the entrepreneurial attitude-intention-behaviour gap existed in the entrepreneurship field (Duong, 2022; Wach & Bilan, 2021) and why scholars called for further studies to close this research gap (Cui & Bell, 2022). However, meta-analysis and longitudinal studies, which relied on the TPB framework, illustrate that attitudes and behavioural intentions can explain around 30-40% of the variation of actual behaviour (Ajzen, 2020).

Previous empirical studies in various areas, including entrepreneurship, produced evidence that supported the prediction of intention about behaviour. Kautonen *et al.*, (2015) demonstrated the relevance of TPB in predicting business start-up intentions and subsequent behaviour based on longitudinal survey data. Some recent studies also showed that intention is an important predictor of entrepreneurial behaviour (Cui & Bell, 2022; Duong, 2022). Additionally, although the TPB suggests that entrepreneurial intention depends on these three mentioned variables (entrepreneurial attitude, subjective norms, and perceived behavioural control), most empirical studies found that entrepreneurial attitude was the strongest predictor of entrepreneurial intention (Duong, 2022). When individuals have a favourable attitude towards entrepreneurship, they increase their intention to start a business (Meyer & Krüger 2021).

The relationship between attitude and entrepreneurial intention has been confirmed in many previous studies (*i.e.*, Duong, 2022, Nowiński *et al.*, 2020, Wach & Głodowska, 2019). However, the nexus between attitude and entrepreneurial behaviour has not received much attention. There is little knowledge about how a positive entrepreneurial attitude translates into entrepreneurial behaviour (Duong, 2022). According to the TPB (Ajzen, 1991), attitude towards behaviour is assumed as a function of behaviour belief. It means that when an individual believes that the expected outcome of a specific behaviour is valuable, they have a favourable attitude towards that behaviour, and therefore the likelihood of engaging in that behaviour is higher. Similarly, when individuals perceive that entrepreneurship may bring them the potential for higher outcomes, their attitude toward engaging in entrepreneurial activities becomes more favourable, leading to an increase in entrepreneurial behaviours (Duong, 2022; Valinurova *et al.*, 2022). Based on this argument, we hypothesize that entrepreneurial behaviour is significantly related to entrepreneurial attitude and intention. Moreover, the entrepreneurial intention is significantly correlated with attitude towards entrepreneurship.

- H1:** Entrepreneurial intention has a significant impact on entrepreneurial behaviour.
- H2:** Attitude towards entrepreneurship has a significant impact on entrepreneurial intention.
- H3:** Attitude towards entrepreneurship has a significant impact on entrepreneurial behaviour.

### **The Role of Entrepreneurial Education**

Education in general and entrepreneurship education in particular play a crucial role in fostering entrepreneurial attitudes, entrepreneurial skills, entrepreneurial competencies, and entrepreneurship culture. Thus, many countries have made entrepreneurial efforts in recent years to promote entrepreneurship as a specific course taught at all educational levels, from the primary level (pupils up to the age of 14) to the university level (undergraduate and postgraduate students), with a particular focus on research and doctoral studies in entrepreneurship (third level) (Wach & Głodowska, 2019). In this respect, both Europe and Asia are lagging behind North America (the USA in particular), where entrepreneurship education has been implemented into secondary education curricula and the majority of American uni-



versities offer compulsory or optional entrepreneurship courses (Guzmán & Liñán, 2005; Androniceanu *et al.*, 2021). However, entrepreneurship education is facing contemporary civilization challenges, including economic challenges and facing new trends in green entrepreneurship and climate protection (Alvarez-Risco *et al.* 2021). To some extent, the challenging issues in entrepreneurial activity are covered within entrepreneurial systems of managerial training (Mishchuk *et al.*, 2022), particularly, due to the reason of lack of entrepreneurial knowledge, sometimes even for the business owners (Civelek *et al.*, 2021b; Devkota *et al.*, 2022). However, these activities are not a substitute for university entrepreneurship education. The educational systems of many countries require the intensification of economic education and this issue is raised by a growing number of experts and researchers.

The experiences of the recent global financial crisis, the debt crisis in Europe, and finally the Covid-19 pandemic only confirm the too-low economic awareness of the society. Entrepreneurial education is dominated by economics, but this should be viewed positively rather than negatively. The economic content of education should in no way be eliminated or reduced. The ongoing crisis and media coverage of numerous cases of the gullibility of the public towards dishonest entrepreneurs and investors unambiguously confirm the urgent need to educate the public precisely in the field of economic knowledge. Of course, non-economic entrepreneurial education (such as various soft skills, creativity, initiatives, or emotional competencies) should be expanded but not at the expense of economic education. Very recently, the global Covid-19 pandemic has changed the landscape and shape of remote education and e-learning, especially in favour of entrepreneurship (Głodowska *et al.*, 2022). The next step, important to ensure the implementation of the set priorities, is to define the content of entrepreneurship education. It should be stressed that entrepreneurship cannot be understood only as the ability to start and run one's own business or as synonymous with the small and medium-sized enterprises (SMEs), which is very often the case. Noteworthy, entrepreneurship education should ensure the acquisition of knowledge and practical skills in starting and running a business and shaping entrepreneurial attitudes, creativity, and innovation (Wach & Bilan, 2022). On the one hand, specialized academic courses should therefore provide interdisciplinary knowledge about starting and running a business (economics, management, finance, marketing, law). On the other hand, they should support students' ideas related to business activity, *e.g.* promote the 'entrepreneurship spirit' in contemporary society (Basuki *et al.* 2021; Wach & Głodowska, 2019).

Guzmán and Liñán (2005) distinguish four categories of education for entrepreneurship, namely education to promote self-employment as an alternative career, start-up education, further education for mature entrepreneurs and education for entrepreneurial dynamism which shapes entrepreneurial attitudes such as own initiative, creativity, inventiveness or innovativeness in the workplace and in one's own business. Therefore, entrepreneurship education plays an important role in the development of entrepreneurs and is one of the most basic tools to improve attitudes towards entrepreneurship (Cui & Bell, 2022). Activities in the entrepreneurship education programme help arouse emotions and trigger events that change students' minds leading to a positive attitude towards entrepreneurship (Duong, 2021). Therefore, they enhance the intention and behaviour to start a business. Additionally, Cui and Bell (2022) argue that entrepreneurial educational activities not only have direct impacts on entrepreneurial intention and actual start-up behaviour, but they also have an indirect effect on entrepreneurial behaviour via a behavioural entrepreneurial mindset. Moreover, entrepreneurial intention can act as a mediator in the relationship between entrepreneurial education activities and start-up behaviour. Indeed, entrepreneurial education can foster the conversation of a positive attitude towards corporate emergence and the intention to become an entrepreneur into an actual start-up action (Duong, 2022; Maheshwari & Kha, 2021). Experiencing the process of equipping students with knowledge and ability regarding organizational emergence, students often tend to behave based on their target in their mind to apply equipped knowledge and skills (Maheshwari, 2022). Thus, in this study, entrepreneurial education can be significantly associated with entrepreneurial behaviour. It is hypothetical whether entrepreneurial education can have an indirect influence on entrepreneurial intention and behaviour via attitude towards entrepreneurship and whether it has serial mediation effects on entrepreneurial behaviour via two mediators (attitude towards entrepreneurship and intention to engage in entrepreneurial action) in the context of Vietnam.

- H4:** Entrepreneurial education has a significant impact on (a) attitude towards entrepreneurship, (b) entrepreneurial intention, and (c) entrepreneurial behaviour.
- H5:** Entrepreneurial education has an indirect impact on entrepreneurial intention via attitude towards entrepreneurship.
- H6:** Entrepreneurial education has an indirect impact on entrepreneurial behaviour via attitude towards entrepreneurship.
- H7:** Entrepreneurial education has an indirect impact on entrepreneurial behaviour via entrepreneurial intention.
- H8:** Entrepreneurial education has an indirect impact on entrepreneurial behaviour via attitude towards entrepreneurship and entrepreneurial intention.

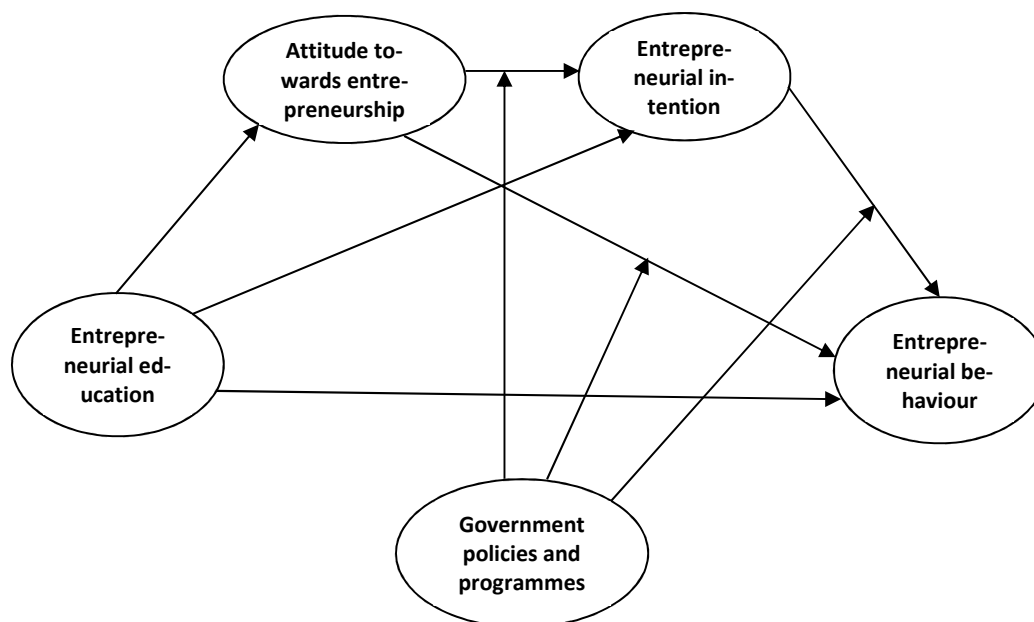
### **Role of Entrepreneurial Government Policies and Programmes**

(The importance of the interaction between people's characteristics and their surrounding environment has been increasingly interested in recent studies because this interaction extensively influences various perspectives of entrepreneurial activities (Elnadi & Gheith, 2021). Many scholars have emphasized the importance of investigating entrepreneurial activities from wider settings, including government policies and programmes for entrepreneurship in different countries or regions (Duong, 2021; Nowiński *et al.*, 2020; Wach & Bilan, 2021; Zygmunt, 2020; Bag & Omrane, 2021). Indeed, a study in Vietnam proved that the regulatory dimension of the environment negatively influenced entrepreneurial intention while the normative dimension of the environment positively fostered the entrepreneurial intentions of graduate students (Duong, 2021). Nowiński *et al.* (2020) also emphasize that entrepreneurial intentions are shaped by various institutional factors, including governmental policies and programmes. However, almost all these studies only examine the direct relationship between entrepreneurial governmental policies and programmes or entrepreneurial ecosystems and entrepreneurial intentions, few studies have considered whether these policies and programmes can increase or weaken the transition from entrepreneurial attitudes into entrepreneurial intention and behaviour or not (Meoli *et al.*, 2020).

Entrepreneurial government policies and programmes refer to the support and provision of necessary resources for new business venture creations within the capacity of the government to enforce entrepreneurial activities (Ahmad & Xavier, 2012; Łasak, 2022). Salisu (2020) argues that policies and programmes for entrepreneurship offered by the government can promote and encourage entrepreneurial activities. However, we still do not know how entrepreneurial government policies and programmes can moderate the entrepreneurial attitude-intention-behaviour links. Previous studies showed that the start-up attitude-intention-behaviour links can be increased or decreased by different factors, such as Covid-19-related psychological distress (Duong, 2022), entrepreneurial fear of failure (Duong, 2022), and cultural values (Calza *et al.*, 2020). In the context of the emerging economy in Vietnam, it is hypothetical that entrepreneurial government policies and programmes can positively moderate the entrepreneurial attitude-intention-behaviour links among master students. When government policies and programmes are more favourable for entrepreneurship, individuals with positive entrepreneurial attitudes are more likely to intend to start a business and display entrepreneurial behaviour. Likewise, when government policies and programmes for entrepreneurship are better, individuals are more likely to implement their entrepreneurial intention, therefore the relationship between entrepreneurial intention and behaviour is stronger.

- H9:** Government policies and programmes moderate the relationships between (a) attitudes towards entrepreneurship and entrepreneurial intention; (b) attitudes towards entrepreneurship and entrepreneurial behaviour; and (c) entrepreneurial intention and entrepreneurial behaviour, to such an extent that when government policies and programmes for entrepreneurship are better, the linkages between attitudes towards entrepreneurship, entrepreneurial intention and entrepreneurial behaviour become stronger.

Therefore, based on the abovementioned arguments and the research gap, the theoretical model has been developed and illustrated in Figure 1.



**Figure 1. The theoretical model**

Source: own elaboration.

## RESEARCH METHODOLOGY

### Data Collection and Sample

Almost all previous studies on entrepreneurship adopted the student sample rather than real entrepreneurs in their studies (Duong, 2022), because students are considered as the population which has a high inclination towards new business venture creations (Maheshwari & Kha, 2021). Moreover, to examine the impacts of entrepreneurship education on entrepreneurial attitude-intention-behaviour links, student samples are more appropriate rather than others (Maheshwari, 2021). However, most undergraduate students lack real business experiences, which can lead to bias in examining entrepreneurial behaviour. Consequently, master's students, who had work and business experiences, have been selected as a targeted sample in our study.

**Table 1. Socio-demographic profile of participants**

Variables	Criteria	Frequency	%
Gender	Male	521	65.0
	Female	281	35.0
Age	From 22 to 25 years old	21	2.6
	From 26 to 28 years old	390	48.6
	Over 28 years old	391	48.8
Fields of education	Economics and business management	502	62.6
	Engineering and others	300	37.4
Business experiences	Yes	339	42.3
	No	463	27.7
Family business background	Yes	329	41.0
	No	473	59.0

Note: N=802.

Source: own study.

Data has been collected during the second semester of the academic year 2021-2022. The data were collected in four stages of the stratified random sampling approach. Firstly, three historical and geographic major regions of Vietnam were selected to recruit the data. Secondly, the authors classified

universities into two groups: public and private universities. In each region, one private and two public universities were randomly selected. A total of nine universities and institutions were selected to collect the data. Thirdly, lecturers who hold PhD degrees at these universities/institutions were asked for support during the data collection. Finally, with the support of lecturers, we delivered the questionnaire survey to master students. They were clearly informed that their participation was completely voluntary and their responses were confidential. In total, 1500 questionnaires were delivered, however, only 861 students fulfilled the questionnaires while 59 questionnaires contained missing values. To avoid bias, we decided to delete them from the final sample, which included 802 responses. Table 1 illustrates the demographic information of master's students.

### Measures and Questionnaire Development

All measures used in this research were developed and validated by prior studies. Especially, the seven-item construct measured for "EB: entrepreneurial behaviour" was adjusted from Gieure *et al.* (2020) (*i.e.*, "I have experience in starting new projects or business," and "I already save money to invest in a business"). The six items measured for "EI: entrepreneurial intention" was adopted from Liñán and Chen (2009) (*i.e.*, "my professional goal is to become an entrepreneur." The five-item construct, which reflects "EE: entrepreneurial education," was adapted from Walter and Block (2016) (*i.e.*, "my school education has equipped me with the necessary abilities and expertise to start my own business"). Finally, the eleven-item scale of "GPP: entrepreneurial government policies and programmes" was taken from the study of Ahmad and Xavier (2012) (*i.e.*, "In my country, the support for new and growing firms is a high priority for policy at the national government level." All items were marked in a seven-point Likert format, which began from 1 (strongly disagree) to 7 (strongly agree). Detailed items were presented in Table 2. To avoid common method bias, a two-way translation from the original scale in English into the Vietnamese language was carried out by two language experts. Additionally, all items were mixed in the questionnaires to avoid bias during the response process.

### Analysis Strategies

Structural equation modelling (SEM) was performed in our study to test the direct, indirect, and moderating effects of entrepreneurial education and entrepreneurial government policies and programmes on the entrepreneurial attitude-intention-behaviour links. However, before carrying out SEM analysis, the reliability and validity of all scales have been examined via Cronbach's alpha and confirmatory factor analysis (CFA) (Hair *et al.*, 2020). Additionally, Gaskin's (2019) plugin with 5000 bootstrapping samples was used to test indirect and serial mediation effects as suggested by Hayes and Matthes (2009).

## RESULTS AND DISCUSSION

### Measurement Model

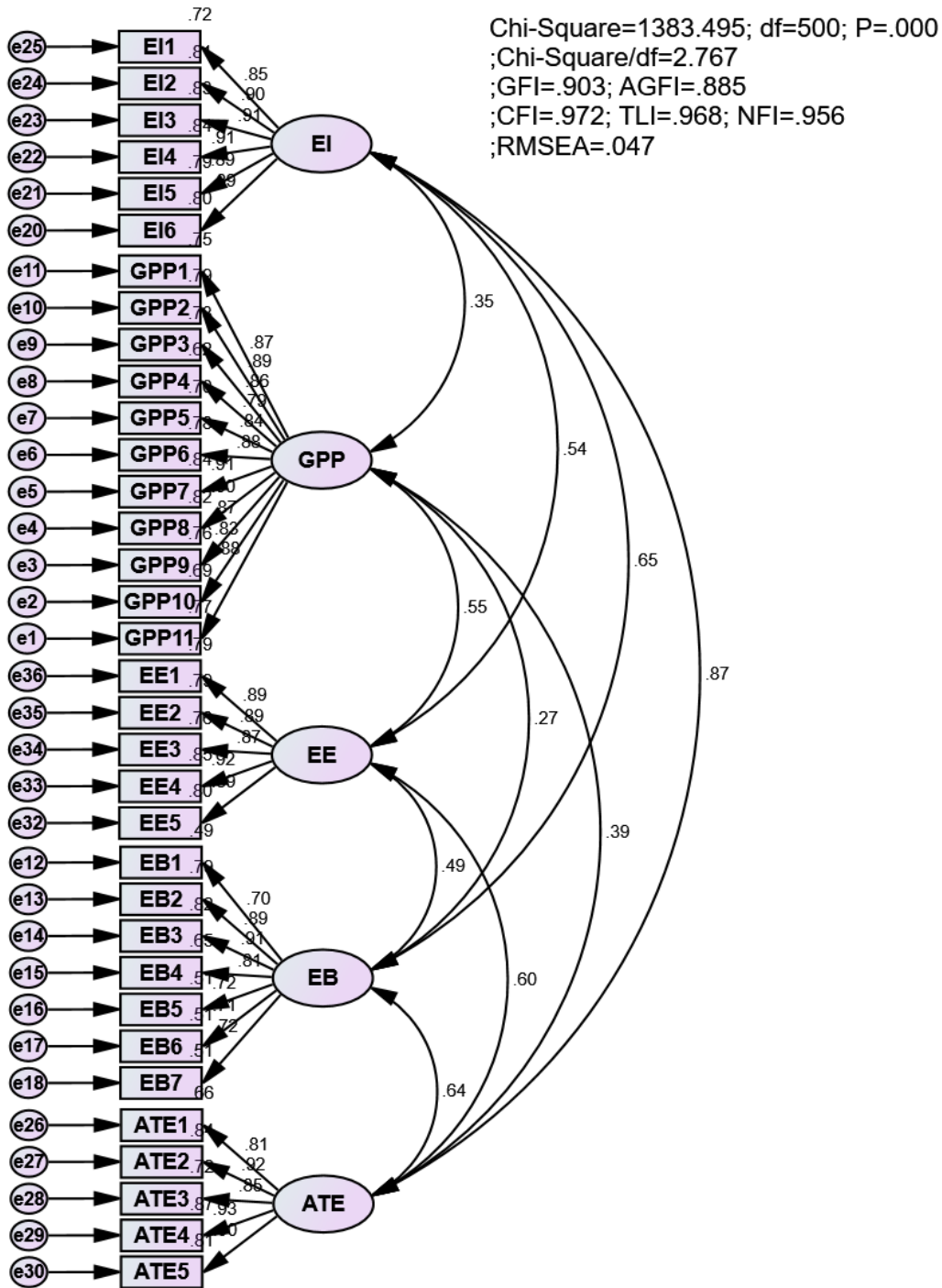
Upon examining the appropriateness of the data and the validity and reliability of constructs in the conceptual framework before testing hypotheses, both Cronbach's alpha and CFA were simultaneously carried out in our study. Firstly, Cronbach's alpha of all variables was higher than the cut-off value and amounted to 0.63 (Hair *et al.*, 2020) (Table 2). Second, CFA results also reported that the five-factor measurement model with 36 items represented a great fit:  $\chi^2(500) = 1383.495$ ;  $\chi^2/df = 2.767$ ;  $p < 0.001$ ; GFI = 0.903; AGFI = 0.885; CFI = 0.972; TLI = 0.968; NFI = 0.956, and RMSEA = 0.047 (Hair *et al.*, 2020; Szostek *et al.*, 2020; 2022) (Figure 2). Moreover, Figure 2 showed that the standardized regression weights of all items were much higher than the cut-off values of 0.5 (Nguyen *et al.*, 2022).

Table 2 illustrates the Pearson correlation matrix, composite reliability (CR), average variance extracted (AVE), and the square roots of AVE of all variables. AVE and CR values were higher than the threshold value of 0.5 and 0.7, respectively. Moreover, maximum shared variance (MSV) values of all variables were found to be lower than their AVEs while all values of correlation coefficients were less than their square root of AVE (in bold). Thus, the reliability and validity of all scales were demonstrated and appropriate for processing to test hypotheses.

**Table 2. Correlation coefficients matrix, the reliability and validity of scales**

	$\alpha$	CR	AVE	MSV	EB	GPP	EI	EE	ATE
<b>EB</b>	0.918	0.916	0.613	0.420	<b>0.783</b>	–	–	–	–
<b>GPP</b>	0.972	0.971	0.750	0.307	0.258**	<b>0.866</b>	–	–	–
<b>EI</b>	0.962	0.959	0.798	0.750	0.621**	0.331**	<b>0.893</b>	–	–
<b>EE</b>	0.954	0.951	0.797	0.366	0.472**	0.516**	0.510**	<b>0.893</b>	–
<b>ATE</b>	0.944	0.946	0.779	0.750	0.614**	0.372**	0.826**	0.578**	<b>0.883</b>

Notes: N=802, \*\* significance was at 0.01 level.  
Source: own study.



**Figure 2. Standardized measurement model**  
Source: own elaboration.

To examine the common method bias, Harman's one-factor test (an unrotated factor solution) has been implemented. The result showed an explained variance of 46.322% which was lower than the cut-off value of 50%, therefore, common method bias was not an issue in our study (Podsakoff *et al.*, 2003).

### The Structural Model

The SEM results reported the goodness-of-fit of the model in the studied dataset. Particularly,  $\chi^2(496) = 1310.966$ ;  $\chi^2/df = 2.643$ ;  $p < 0.001$ ; GFI = 0.974; AGFI = 0.892; CFI = 0.974; TLI = 0.970; NFI = 0.959, and RMSEA = 0.045 (Hair *et al.*, 2020). The standardized coefficients of proposed paths obtained from SEM analysis was illustrated in Figure 3 and Table 4.

**Table 4. Results of the hypothesis testing of the study**

Hypothesis	Paths	Standardized effects	P-value
H1	EI → EB	0.151	*
H2	ATE → EI	0.824	***
H3	ATE → EB	0.449	***
H4a	EE → ATE	0.616	***
H4b	EE → EI	0.004	0.910
H4c	EE → EB	0.172	***
H5	EE → ATE → EI	0.503	***
H6	EE → ATE → EB	0.149	**
H7	EE → EI → EB	0.006	0.490
H8	EE → ATE → EI → EB	0.503	***
H9a	GPP*ATE → EI	0.061	**
H9b	GPP*ATE → EB	0.257	*
H9c	GPP*EI → EB	0.228	***

Notes: N=802, \*  $p < 0.05$ ; \*\*  $p < 0.01$ ; \*\*\*  $p$ -value  $< 0.001$ .

Source: own study.

Results reported that both attitude towards entrepreneurship ( $\beta = 0.449$ ;  $p$ -value  $< 0.001$ ) and entrepreneurial intention ( $\beta = 0.151$ ;  $p$ -value  $< 0.05$ ) were significantly associated with entrepreneurial behaviour while the entrepreneurial intention was strongly correlated with attitude towards entrepreneurship ( $\beta = 0.824$ ;  $p$ -value  $< 0.001$ ). H1, H2, and H3 were thus supported by the data.

With regard to the direct effect of entrepreneurial education, our results revealed that entrepreneurial education was positively associated with attitude towards entrepreneurship ( $\beta = 0.616$ ;  $p$ -value  $< 0.001$ ) and entrepreneurial behaviour ( $\beta = 0.172$ ;  $p$ -value  $< 0.001$ ), yet it was not significantly related to entrepreneurial intention ( $\beta = 0.004$ ;  $p$ -value  $> 0.05$ ). Therefore, while H4a and H4c were supported, H4b was not supported by the data. Besides, serial mediation effects of entrepreneurial education on intention and behaviour engaged in entrepreneurial activities were tested in this study. Results reported that entrepreneurial education indirectly affected entrepreneurial intention ( $\beta_{EE-ATE-EI} = 0.503$ ;  $p$ -value  $< 0.001$ ) and entrepreneurial behaviour ( $\beta_{EE-ATE-EB} = 0.149$ ;  $p$ -value  $< 0.01$ ) via attitude towards entrepreneurship while entrepreneurial education did not affect entrepreneurial behaviour ( $\beta_{EE-EI-EB} = 0.006$ ;  $p$ -value  $> 0.05$ ) via entrepreneurial intention. Interestingly, entrepreneurial education had a serial mediation impact on entrepreneurial behaviour via attitude towards entrepreneurship and entrepreneurial intention ( $\beta_{EE-ATE-EI-EB} = 0.503$ ;  $p$ -value  $< 0.001$ ). Thus, H5, H6, and H8 were supported while H7 was not supported by the data.

Finally, the moderation impacts of government policies and programmes on the entrepreneurial attitude-intention-behaviour links were estimated. Results illustrated that government policies and programmes positively moderated the entrepreneurial attitude-intention linkage ( $\beta = 0.061$ ;  $p$ -value  $< 0.01$ ), the impact of attitude towards entrepreneurship on start-up behaviour ( $\beta = 0.257$ ;  $p$ -value  $< 0.05$ ), and the impact of on entrepreneurial intention on entrepreneurial behaviour ( $\beta = 0.228$ ;  $p$ -value  $< 0.001$ ). Thus, H9a, 9b, and 9c were supported. The interaction plot of these links is demonstrated in Figure 4.

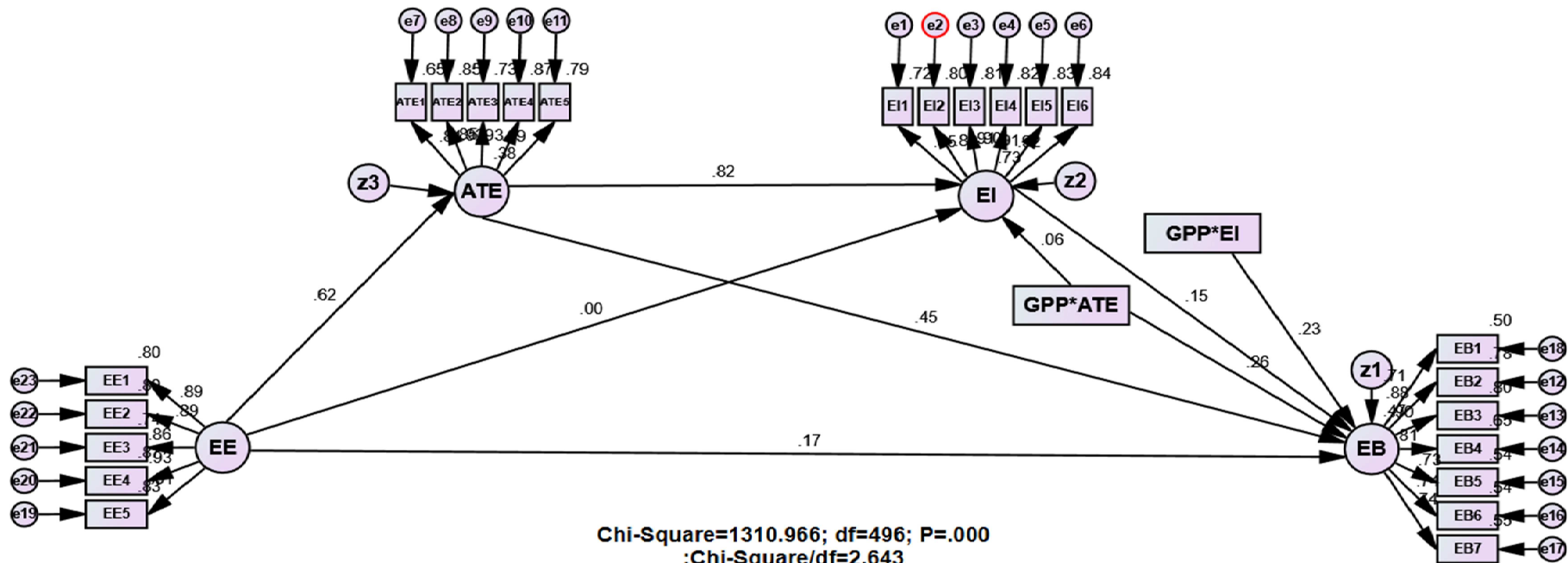
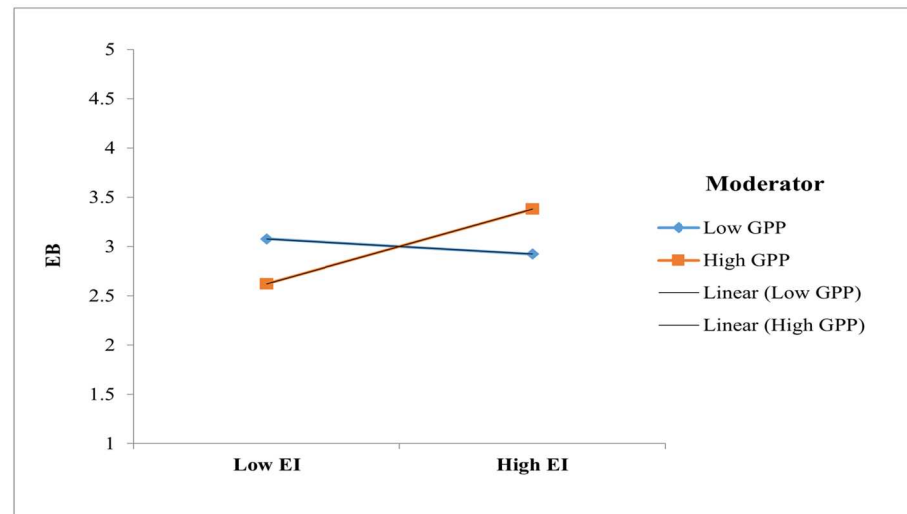
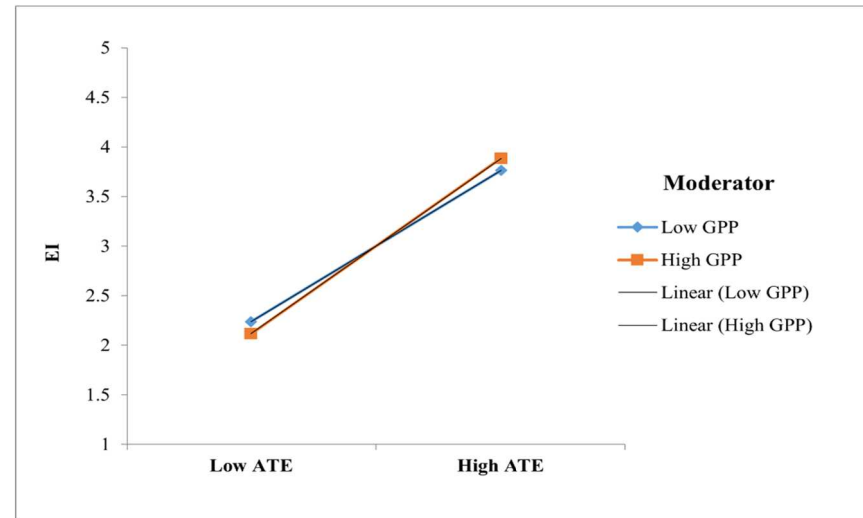
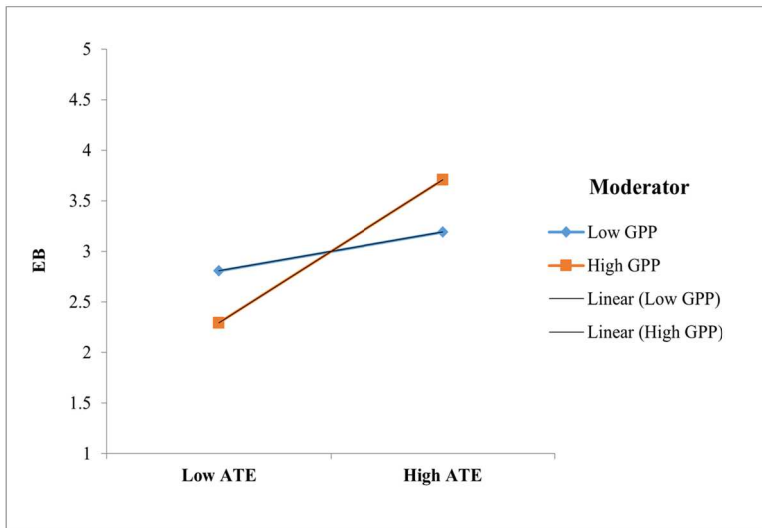


Figure 3. Standardized structural model

Source: own elaboration.



**Figure 4. Cross-level moderation impacts of government policies and programmes**

Source: own elaboration.



## CONCLUSIONS

Prior studies tried to explore how a positive attitude towards involvement in organization emergence and start-up intention turn into actual start-up behaviour (e.g., Calza *et al.*, 2020; Meoli *et al.*, 2020). However, our extant understanding of entrepreneurial attitude-intention-behaviour linkages is still limited (Duong, 2022) and further explorations are required (Gieurre *et al.*, 2020). Moreover, the transition process from a positive attitude to becoming involved in organization emergence and start-up intention into actual start-up behaviour can be moderated by contextual and environmental factors (Calza *et al.*, 2020). In our research, we consider organization emergence as a vocational behaviour (Gieurre *et al.*, 2020), which can be nurtured via entrepreneurial education (Duong, 2021) and training and supported via government policies and programmes (Salisu, 2020).

Our results reported that a positive attitude towards involvement in organization emergence and intention to start a business both play an important role in sculpting entrepreneurial behaviour. However, the direct influence of a positive attitude towards involvement in organization emergence was stronger than that of intention on entrepreneurial behaviour. It means that the entrepreneurial behaviour of master's students was strongly influenced by their attitude towards entrepreneurship in the context of Vietnam. It also reflects that the entrepreneurial behaviour of master's students in Vietnam was largely shaped by how they perceived the outcome of a business career. A favourable entrepreneurial attitude made them more likely to start a business. Additionally, the results of this study indicated that a favourable attitude towards entrepreneurship played an important role in shaping start-up intention, which is in the line with many previous studies in other emerging economies (e.g., Elnadi & Gheith, 2021; Nowiński *et al.*, 2020). Moreover, attitude towards entrepreneurship not only had a direct effect on entrepreneurial behaviour, but it also had a partial mediation impact on entrepreneurial behaviour via entrepreneurial intention. Thus, our findings could help explain the key roles of both entrepreneurial attitudes and intentions in developing entrepreneurial behaviour and significantly contribute to extant entrepreneurship literature.

Concerning the role of entrepreneurial education, our results revealed that entrepreneurial education positively contributed to sculpting entrepreneurial attitudes and behaviour directly. However, entrepreneurial education was not found to have a significant impact on start-up intention, which was consistent with some prior studies (e.g. Duong *et al.*, 2021; Nowiński *et al.*, 2020). Additionally, the result of mediation testing reported that besides the direct effect on entrepreneurial behaviour, entrepreneurial education indirectly affected entrepreneurial behaviour via attitude towards becoming entrepreneurs. In other words, the attitude towards becoming an entrepreneur served as a partial mediator in the relationship between entrepreneurial education and entrepreneurial behaviour. Additionally, serial mediation testing demonstrated that entrepreneurial education had a serial indirect effect on start-up behaviour via two mediators, including entrepreneurial attitude and entrepreneurial intention. These findings led to a general conclusion that when master's students received entrepreneurial education, their attitude towards entrepreneurship became more favourable and they were more likely to engage in entrepreneurial activities. Consequently, a serial mediation model can help us understand why entrepreneurial education does not play a direct role in shaping entrepreneurial intention, but it still enforces individuals to behave in an entrepreneurial manner, which was not clarified in prior studies (Maheshwari, 2021; Nowiński *et al.*, 2020).

With regard to the moderation effects of entrepreneurial government policies and programmes on the start-up attitude-intention-behaviour links, most of the prior studies focused on the direct effects of entrepreneurial government policies and programmes on entrepreneurial intention (e.g. Elnadi & Gheith, 2021; Salisu, 2020), but overlooking the moderation effects of government policies and programmes on the entrepreneurial process (Maheshwari, 2021). Our results reported that entrepreneurial government policies not only reinforced the translation from an entrepreneurial attitude into entrepreneurial intention, but it also increased the conversion from attitude towards organization emergence and start-up intention into actual entrepreneurial behaviour. It means that when entrepreneurial government policies and programmes are better, the linkages between attitudes towards

organization emergence, entrepreneurial intention and entrepreneurial behaviour become stronger. In other words, there are more likely to transfer from a positive entrepreneurial attitude and entrepreneurial intention into start-up action if government policies and programmes for entrepreneurship are more favourable for new enterprises or nascent entrepreneurs.

### **Theoretical Contribution**

Thus, our study made several significant contributions to the extant entrepreneurship literature. Firstly, the study bridged the attitude-intention-behaviour gap when our results found that entrepreneurial behaviour can be significantly predicted by both attitudes towards entrepreneurship and entrepreneurial intention. Moreover, entrepreneurial attitude turned its influence on start-up intention into actual entrepreneurial behaviour. Secondly, a serial mediation effect of entrepreneurial education on actual start-up behaviour via two mediators (entrepreneurial attitude and start-up intention) was significant in our study, which helps clarify why when individuals receive entrepreneurial behaviour, their entrepreneurial intention does not become higher, yet they still behave entrepreneurially manner. Last, our study contributed to entrepreneurship literature when it indicated that entrepreneurial government policies and programmes can promote individuals by transferring their positive attitude towards becoming entrepreneurs, and initial start-up intention into entrepreneurial actions.

### **Practical and Managerial Implication**

Our findings provided some practical and managerial insights for policymakers and educators to inspire individuals to engage in entrepreneurial activities. Firstly, our results revealed that a positive attitude towards organization emergence and intention to start a business both play an important role in sculpting entrepreneurial behaviour. Especially the direct impact of attitude towards organization emergence on entrepreneurial behaviour was stronger than that of intention on entrepreneurial behaviour. This implies that promoting a favourable attitude towards entrepreneurship is a backbone issue of shaping entrepreneurial behaviour. Moreover, the entrepreneurial process, which originated from a positive attitude towards creating a new business venture and ends with actual start-up behaviour, can be nurtured by entrepreneurial education. Although entrepreneurial education does not directly affect entrepreneurial intention, it directly affects entrepreneurial behaviour. Entrepreneurial education indirectly affects entrepreneurial intention and behaviour through improving attitude towards entrepreneurship. Thus, educational programmes for entrepreneurship should be taken account into fostering entrepreneurial activities in the long-term strategies (Wach & Głodowska, 2019), and even entrepreneurial education programmes should be implemented at earlier stages of entrepreneurial education, such as primary, secondary, and high schools (Alvarez-Risco *et al.*, 2021). Educators should invite successful entrepreneurs to come as guest speakers in entrepreneurial programmemes which could help students shape their positive attitude towards entrepreneurship. Additionally, pedagogical approaches orienting to real and experiential learning, real business situation, or extracurricular activities should be concerned to increase the effectiveness of entrepreneurial education programmes (Cui & Bell, 2022).

Secondly, entrepreneurial government policies and programmes can foster the transition of the entrepreneurial attitude and intention into start-up behaviour, hence, encouraging a favourable entrepreneurial ecosystem for new enterprises is needed to foster individuals to behave entrepreneurially (Duong, 2021). Government and policymakers should provide policies which can foster individuals to implement their entrepreneurial intention such as supporting the implementation of communication activities on creative start-ups and building entrepreneurship culture; implementing training programmes to develop human resources for innovative entrepreneurship; and developing infrastructure, techniques, and premises for creative entrepreneurial activities (Linhartova, 2021; Tran *et al.*, 2022).

### **Limitations and Avenues for Further Studies**

Even though our study made the critical contributions to both theoretical, practical, and managerial perspectives, some limitations should be mentioned to make suggestions for next studies. Firstly, our study adopted a cross-sectional questionnaire and temporary aspect to investigate and close the start-up attitude-intention-behaviour, thus, next studies should use longitudinal data, which observe the

time-lags between attitudes towards organizational emergence, start-up intention, and actual behaviour over time. This longitudinal approach could bring the better insights into the organizational emergence attitude-intention-behaviour linkages, especially in measuring actual entrepreneurial behaviour more exactly. Secondly, our research model focuses solely on exploring the indirect influence of entrepreneurial education and the moderating impacts of entrepreneurial government policies and programmes on the start-up attitude-intention-behaviour relationships, thus, next studies should expand the research model to explore the impacts of internal and external factors on these relations.

## REFERENCES

- Adelowo, C. M., Ilevbare, O. E., & Surujal, J. (2021). Do entrepreneurial characteristics and education influence start-up potentials among undergraduates? Evidence from a developing country. *International Entrepreneurship Review*, 7(3), 71-82. <https://doi.org/10.15678/IER.2021.0703.06>
- Ahmad, S.Z., & Xavier, S.R. (2012). Entrepreneurial environments and growth: evidence from Malaysia GEM data. *Journal of Chinese Entrepreneurship*, 4(1), 50-69. <https://doi.org/10.1108/17561391211200939>
- Ajzen, I. (1987). Attitudes, traits, and actions: Dispositional prediction of behaviour in social psychology. *Advances in Experimental Social Psychology*, 20, 1-63.
- Ajzen, I. (1991). The theory of planned behaviour. *Organizational Behaviour and Human Decision Processes*, 50, 179-211.
- Ajzen, I. (2020). The theory of planned behaviour: Frequently asked questions. *Human Behaviour and Emerging Technology*, 2(4), 314-324. <https://doi.org/10.1002/hbe2.195>
- Alvarez-Risco, A., Młodzianowska, S., Zamora-Ramos, U., & Del-Aguila-Arcentales, S. (2021). Green entrepreneurship intention in university students: The case of Peru. *Entrepreneurial Business and Economics Review*, 9(4), 85-100. <https://doi.org/10.15678/EBER.2021.090406>
- Androniceanu, A., Georgescu, I., & Sabie, O. M. (2022). Comparative research on government effectiveness and political stability in Europe. *Administratie si Management Public*, 39, 63-76. <https://doi.org/10.24818/amp/2022.39-04>
- Androniceanu, A., Nica, E., Georgescu, I., & Sabie, O. M. (2021). The influence of the ICT on the control of corruption in public administrations of the EU member states: a comparative analysis based on panel data. *Administratie si Management Public*, 37, 41-59 <https://doi.org/10.24818/amp/2021.37-03>
- Bach, T.N., Ly Dai, H., Nguyen, V.H., & Le, T. (2022). Sub-national union coverage and the youth's labor market outcomes: Evidence from a national survey in Vietnam. *Journal of Economics and Development*, 24(2), 112-126. <https://doi.org/10.1108/JED-02-2021-0025>
- Bag, S., & Omrane, A. (2021). The relationship between the personality traits of entrepreneurs and their decision-making process: the role of manufacturing SMEs' Institutional Environment in India. *Forum Scientiae Oeconomia*, 9(3), 103-122. [https://doi.org/10.23762/FSO\\_VOL9\\_NO3\\_7](https://doi.org/10.23762/FSO_VOL9_NO3_7)
- Calza, F., Cannavale, C., & Nadili, I.Z. (2020). How do cultural values influence entrepreneurial behaviour of nations? A behavioural reasoning approach. *International Business Review*, 29(5), 101725. <https://doi.org/10.1016/j.ibusrev.2020.101725>
- Civelek, M., Ključnikov, A., Fialova, V., Folvarčňá, A., & Stoch, M. (2021a). How innovativeness of family-owned SMEs differ depending on their characteristics?. *Equilibrium. Quarterly Journal of Economics and Economic Policy*, 16(2), 413-428. <https://doi.org/10.24136/eq.2021.015>
- Civelek, M., Ključnikov, A., Fialova, V., Folvarčňá, A., & Stoch, M. (2021b). Major obstacles in innovative activities of family-owned SMEs: Evidence from Czechia. *Economics and Sociology*, 14(2), 137-149. <https://doi.org/10.14254/2071-789X.2021/14-2/7>
- Court, T. O., & Ariekpar, O. A. (2022). Entrepreneurial ecosystem and start-ups in Sub-Saharan Africa: Empirical evidence based on Global Entrepreneurship Monitor database. *International Entrepreneurship Review*, 8(1), 23-33. <https://doi.org/10.15678/IER.2022.0801.02>
- Cui, J., & Bell, R. (2022). Behavioural entrepreneurial mindset: How entrepreneurial education activity impacts entrepreneurial intention and behaviour. *The International Journal of Management Education*, 20, 100639. <https://doi.org/10.1016/j.ijme.2022.100639>

- Cong, L.C., & Thu, D.A. (2021). The competitiveness of small and medium enterprises in the tourism sector: The role of leadership competencies. *Journal of Economics and Development*, 23(3), 299-316. <https://doi.org/10.1108/JED-06-2020-0080>
- Dankiewicz, R., Ostrowska-Dankiewicz, A., & Bulut, C. (2020). The attitudes of entrepreneurs of the small and medium-sized enterprises sector in Poland to key business risks. *Equilibrium. Quarterly Journal of Economics and Economic Policy*, 15(3), 511-536. <https://doi.org/10.24136/eq.2020.023>
- Devkota, N., Shreebastab, D. K., Korpysa, J., Bhattarai, K., & Paudel, U. R. (2022). Determinants of successful entrepreneurship in a developing nation: Empirical evaluation using an ordered logit model. *Journal of International Studies*, 15(1), 181-196. <https://doi.org/10.14254/2071-8330.2022/15-1/12>
- Duong, C.D. (2022). Entrepreneurial fear of failure and the attitude-intention-behavior gap in entrepreneurship: A moderated mediation model. *The International Journal of Management Education*, <https://doi.org/10.1016/j.ijme.2022.100707>
- Duong, D.C. (2021). The role of contextual factors on predicting entrepreneurial intention among Vietnamese students. *Entrepreneurial Business and Economics Review*, 9(1), 169-188. <https://doi.org/10.15678/EBER.2021.090111>
- Elnadi, M., & Gheith, M.H. (2021). Entrepreneurial ecosystem, entrepreneurial self-efficacy, and entrepreneurial intention in higher education: Evidence from Saudi Arabia. *The International Journal of Management Education*, 19, 100458. <https://doi.org/10.1016/j.ijme.2021.100458>
- Gaskin, J., & James, M. (2019). Johnson-Neyman Plot Analysis Plugin for AMOS. Gaskination's StatWiki.
- Gieure, C., Benavides-Espinosa, M.M., & Roig-Bobón, S. (2020). The entrepreneurial process: The link between intentions and behaviour. *Journal of Business Research*, 112, 541-548. <https://doi.org/10.1016/j.jbusres.2019.11.088>
- Guzmán, J., & Liñán, F. (2005). *Perspectives on Entrepreneurial Education: A US-Europe Comparison*. Universidad Antonio de Nebrija, Madrid.
- Hair, J.F., Howard, M.C., & Nitzl, C. (2020). Assessing measurement model quality in PLS-SEM using confirmatory composite analysis. *Journal of Business Research*, 109, 101-110. <https://doi.org/10.1016/j.jbusres.2019.11.069>
- Hayes, A.F., & Matthes, J. (2009). Computational Procedures for Probing Interactions in OLS and Logistic Regression: SPSS and SAS Implementations. *Behaviour Research Methods*, 41(3), 924-936.
- Kautonen, T., van Gelderen, M., & Fink, M. (2015). Robustness of the theory of planned behavior in predicting entrepreneurial intentions and actions. *Entrepreneurship: Theory and Practice*, 39, 655-674.
- Krueger, N.F. (1993). The impact of prior entrepreneurship exposure on perception of new venture feasibility and desirability. *Entrepreneurship Theory and Practice*, 18, 5-21.
- Laouiti, R., Haddoud, M.Y., & Nakara, W.A. (2022). A gender-based approach to the influence of personality traits on entrepreneurial intention. *Journal of Business Research*, 142, 819-829. <https://doi.org/10.1016/j.jbusres.2022.01.018>
- Liñán, F., & Chen, Y.W. (2009). Development and cross-cultural application of a specific instrument to measure entrepreneurial intentions. *Entrepreneurship Theory and Practice*, 33, 593-617. <https://doi.org/10.1111/j.1540-6520.2009.00318.x>
- Linhartova, V. (2021). Analyzing the Role of Public Expenditures in Human Development: Panel Data Analysis of EU-28 Countries. *Montenegrin Journal of Economics*, 17(1), 85-96. <https://doi.org/10.14254/1800-5845/2021.17-1.6>
- Łasak, P. (2022). The role of financial technology and entrepreneurial finance practices in funding small and medium-sized enterprises. *Journal of Entrepreneurship, Management, and Innovation*, 18(1), 7-34. <https://doi.org/10.7341/20221811>.
- Maheshwari, G. (2022). Entrepreneurial intentions of university students in Vietnam: Integrated model of social learning, human motivation, and TPB. *The International Journal of Management Education*, 20(3), 100714. <https://doi.org/10.1016/j.ijme.2022.100714>
- Maheshwari, G., & Kha, K.L. (2021). Investigating the relationship between educational support and entrepreneurial intention in Vietnam: The mediating role of entrepreneurial self-efficacy in the theory of planned behaviour. *The International Journal of Management Education*, 20(2), 100553. <https://doi.org/10.1016/j.ijme.2021.100553>

- Meoli, A., Fini, R., Sobrero, M., & Wiklund, J. (2021). How entrepreneurial intentions influence entrepreneurial career choices: The moderating influence of social context. *Journal of Business Venturing*, 35, 105982. <https://doi.org/10.1016/j.jbusvent.2019.105982>
- Meyer, N., & Krüger, N. (2021). South African female entrepreneurs' motivational factors: Differences between young and established businesses owners. *Forum Scientiae Oeconomia*, 9(1), 75–90. [https://doi.org/10.23762/FSO\\_VOL9\\_NO1\\_5](https://doi.org/10.23762/FSO_VOL9_NO1_5)
- Mishchuk, H., Štofková, J., Krol, V., Joshi, O., & Vasa, L. (2022). Social Capital Factors Fostering the Sustainable Competitiveness of Enterprises. *Sustainability*, 14(19), 11905. <https://doi.org/10.3390/su141911905>
- Nguyen, H.V., Le, M.T.T., Pham, C.H., & Cox, S.S. (2022). Happiness and pro-environmental consumption behaviors. *Journal of Economics and Development*, <https://doi.org/10.1108/JED-07-2021-0116>
- Nowiński, W., Haddoud, M., Wach, K., & Schaefer, R. (2020). Perceived public support and entrepreneurship attitudes: A little reciprocity can go a long way!. *Journal of Vocational Behaviour*, 121, 103474. <https://doi.org/10.1016/j.jvb.2020.103474>
- Salisu, J.B. (2020). Entrepreneurial training effectiveness, government entrepreneurial supports and venturing of TVET students into IT related entrepreneurship – An indirect-path effects analysis. *Heliyon*, e05504. <https://doi.org/10.1016/j.heliyon.2020.e05504>
- Skalická, M., Zinecker, M., Balcerzak, A.P., & Pietrzak, M. (2023). Business Angels and Early Stage Decision Making Criteria: Empirical Evidence from an Emerging Market. *Economic Research-Ekonomska Istraživanja*. 36(1), 25-50. <https://doi.org/10.1080/1331677X.2022.2063920>
- Szostek, D., Balcerzak, A. P., Rogalska, E. (2020). The relationship between personality, organizational and interpersonal counterproductive work challenges in industry 4.0. *Acta Montanistica Slovaca*, 25(4); 577-592. <https://doi.org/10.46544/AMS.v25i4.11>
- Szostek, D., Balcerzak, A. P., & Rogalska, E. (2022). The impact of personality traits on subjective categories of counterproductive work behaviors in Central European environment. *Transformations in Business & Economics*, 21(2) [56], 163-180.
- Thompson, E.R. (2009). Individual Entrepreneurial Intent: Construct Clarification and Development of an Internationally Reliable Metric. *Entrepreneurship Theory & Practice*, 3(33), 669-694.
- Uansa-ard, S., & Wannamakok, W. (2022). University students' entrepreneurial intentions during COVID-19: The perspective of social cognitive career theory. *Journal of Entrepreneurship, Management, and Innovation*, 18(3), 75-105. <https://doi.org/10.7341/20221833>
- Valinurova, L.S., Gazitdinov, A.M., Kazakova, O.B. & Kuzminykh, N.A. (2022). Higher Education and Innovation Potential in Russian Regions: Territorial Distribution. *Montenegrin Journal of Economics*, 18(1), 195-203. <https://doi.org/10.14254/1800-5845/2022.18-1.16>
- Wach, K., & Bilan, S. (2021). Public support and administration barriers towards entrepreneurial intentions of students in Poland. *Administrative Management Public*, 36(1), 67-80. <https://doi.org/10.24818/amp/2021.36-04>
- Wach, K., & Głodowska, A. (2019). The Role of University in the Development of Entrepreneurial Intentions of Younger Generations: Selected Models, In M. Pietrzykowski (Ed.), *Fostering Entrepreneurial and Sales Competencies in Higher Education* (pp. 45-63.). Poznań (Poland): Bogucki Wydawnictwo Naukowe. <https://doi.org/10.12657/9788379862801-4>
- Walter, S.G., & Block, J.H. (2016). Outcomes of entrepreneurship education: an institutional perspective. *Journal of Business Venturing*, 31(2), 216-233. <https://doi.org/10.1016/j.jbusvent.2015.10.003>
- Zygmunt, J. (2020). The effect of changes in the economic structure on entrepreneurial activity in a transition economy: the case of Poland. *Equilibrium. Quarterly Journal of Economics and Economic Policy*, 15(1), 49–62. <https://doi.org/10.24136/eq.2020.003>


### Authors

Cong Doanh Duong 40% (draft writing, concepts, analysis, revisions), Krzysztof Wach (30%) (draft writing, concepts), Ngoc Xuan Vu (10%) (final writing for submitting), Son Tung Ha (10%) (Data collection, draft correction), and Bich Ngoc Nguyen (10%) (draft correction).

#### Doanh Duong Cong

PhD in Business Management (2019, National Economics University, Vietnam & University of Szczecin, Poland-Erasmus Mundus Programme); Master of Science in Management (2016, KEDGE Business School, France); Bachelor of Business Administration (2011, National Economics University, Vietnam). His research interests include entrepreneurship, corporate social responsibility, and green consumption.


**Correspondence to:** Doanh Duong Cong, PhD, Department of General Management, Faculty of Business Management, National Economics University, 207 Giai Phong, Hanoi, Vietnam, e-mail: doanhdh@neu.edu.vn

**ORCID**  <http://orcid.org/0000-0003-4431-9761>

#### Krzysztof Wach

Full Professor at Krakow University of Economics (Poland). Professor of social sciences (2020), Post-Doc Degree of Habilitated Doctor in economics (2013), PhD in Management (2006). Member of the Commission for Economic Sciences of the Polish Academy of Sciences (PAN). Member of the Commission for Economic Sciences of the Polish Academy of Skills (PAU). His research interests include entrepreneurship, international business, innovation, and family firms.


**Correspondence to:** prof. dr hab. Krzysztof Wach, Krakow University of Economics, Department of International Trade, Rakowicka 27, 31-510 Kraków, Poland, e-mail: wachk@uek.krakow.pl

**ORCID**  <http://orcid.org/0000-0001-7542-2863>

#### Ngoc Xuan Vu

PhD in Business Management (2018, Foreign Trade University, Vietnam). He is working as a lecturer/researcher at National Economics University, Hanoi, Vietnam. His research interests include entrepreneurship and sustainable development.


**Correspondence to:** Ngoc Xuan Vu, PhD, Faculty of Economics, National Economics University, 207 Giai Phong, Hanoi, Vietnam, e-mail: xuanvn@neu.edu.vn

**ORCID**  <http://orcid.org/0000-0003-4364-9785>

#### Son Tung Ha

Associate Professor, PhD, Researcher/Lecturer at Faculty of Business Management, National Economics University, Hanoi, Vietnam. His research interests include entrepreneurship and sustainable development.


**Correspondence to:** Son Tung Ha, Faculty of Business Management, National Economics University, 207 Giai Phong, Hanoi, Vietnam, e-mail: tunghs@neu.edu.vn

**ORCID**  <http://orcid.org/0000-0002-5475-8365>

#### Bich Ngoc Nguyen

PhD, Researcher/lecturer at School of Trade and International Economics, National Economics University, 207 Giai Phong, Hanoi, Vietnam. Her research interests include entrepreneurship and sustainable consumption.

**Correspondence to:** Bich Ngoc Nguyen, PhD, School of Trade and International Economics, National Economics University, 207 Giai Phong, Hanoi, Vietnam, e-mail: bichngocktqt@neu.edu.vn

**ORCID**  <http://orcid.org/0000-0001-9221-1654>

### Acknowledgements and Financial Disclosure

The article is co-funded by the National Economics University, Hanoi (Vietnam). The publication was co-financed from the subsidy granted to Krakow University of Economics (Poland) – Project no. 073/EEZ/2022/POT.

**Conflict of Interest**

The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

**Copyright and License**

This article is published under the terms of the Creative Commons Attribution – NoDerivs (CC BY-ND 4.0) License  
<http://creativecommons.org/licenses/by-nd/4.0/>

Published by Cracow University of Economics – Krakow, Poland



Ministry of Education and Science  
Republic of Poland

The journal is co-financed in the years 2022-2024 by the Ministry of Education and Science of the Republic of Poland in the framework of the ministerial programme “Development of Scientific Journals” (RCN) on the basis of contract no. RCN/SP/0583/2021/1 concluded on 13 October 2022 and being in force until 13 October 2024.

# The impact of young employees' perceptions of current paid jobs on the entrepreneurial intention with the mediator of job satisfaction: The case of Vietnam

Tran Thi Hong Lien, Nguyen Duy Hoang

## ABSTRACT

**Objective:** While research on entrepreneurial intention is popular around the world and relies mostly on data from university students, a question open to academics is: 'do working people's perceptions of their employment affect their start-up intention?'. An answer to this question would be useful for employers and other stakeholders, hence, this article aims to explore the impact of young employees' perception of their current paid jobs on their entrepreneurial intention via the mediator of job satisfaction.

**Research Design & Methods:** A sample of 272 working people aged 25 to 30 from all three regions of Vietnam with a structure corresponding to the whole population was used to conduct a quantitative study utilising structural equation modelling (SEM). The research model was established based on the entrepreneurship event model (EEM), the theory of planned behaviour (TPB), and the job characteristics model.

**Findings:** Young employees' perceptions of current job characteristics (perception of work meaningfulness, responsibility, and results) positively impact their current job satisfaction. In turn, job satisfaction mediates the relationship between the perception of current job characteristics and the entrepreneurial intention of young employees, with its positive effect on the intention.

**Implications & Recommendations:** Employers should design jobs with many opportunities for learning, and create an intra-entrepreneurial working environment to take advantage of the employees' start-up intention and keep the talents.

**Contribution & Value Added:** The findings of this research challenge our long-held belief that job satisfaction has a negative relationship with entrepreneurial intention. The explanation was found in the new employee generations' high need for learning opportunities. In addition, the study also investigated entrepreneurship through a new lens combined of the entrepreneurship event model (EEM), the theory of planned behaviour (TPB), and the job characteristics model and demonstrated the power of these theories.

**Article type:** research article

**Keywords:** entrepreneurial intention; job characteristics; job satisfaction; start-up ecosystem

**JEL codes:** M13

Received: 1 June 2022

Revised: 3 December 2022

Accepted: 3 December 2022

## Suggested citation:

Thi Hong Lien, T., & Duy Hoang, N. (2022). The impact of young employees' perceptions of current paid jobs on the entrepreneurial intention with the mediator of job satisfaction: The case of Vietnam. *Entrepreneurial Business and Economics Review*, 10(4), 55-71. <https://doi.org/10.15678/EBER.2022.100404>

## INTRODUCTION

According to Start-up Genome 2020 report on the global start-up ecosystem, the world entrepreneurial economy is valued at USD 3 trillion, equivalent to the GDP of a G7 country (GEN, 2020). Entrepreneurial activities significantly influence the formation of a diversified and dynamic economy, create more employment and critically contribute to international trade (OECD, 1998). Entrepreneurship is the driver of economic growth and creates more employment. To entrepreneurs, starting up their own businesses is a way to meet the high demand for personal career management and work capabilities.



The wave of start-ups in Vietnam has accumulated its momentum since the beginning of the twenty-first century and has surged over the last five years (Thi Hong Lien, 2021), with 72% of business owners starting up in their 30s (VCCI, 2016), the most robust age for entrepreneurship after several years of experience from paid jobs (Azoulay *et al.*, 2020). Therefore, under 30 is the best time to learn and experience to prepare for a business start-up.

However, most of the current studies on entrepreneurial intention focus on students to explore the potential determinants of their entrepreneurial intention (Doanh, 2021; Nguyen Anh Tuan *et al.*, 2019; Nguyen Cuong, 2015; Nguyen Xuan Truong, 2020). Students' lack of experience in the labour market and the business environment makes the investigation of the determinants among this demographic group not very practical and is exposed to a significant limitation. Meanwhile, the more potential entrepreneurs with real experience at work and in the business environment, young working people have not been thoroughly examined in the literature. There has been some research on this demographic group (Mihalcea *et al.*, 2012; Blaese *et al.*, 2021; Li *et al.*, 2022); however, most studies focused on examining the individual perception of characteristics suitable for entrepreneurship as the precedents of entrepreneurial intention regardless of such objective external factors as current employment. A possible explanation for this research gap is that students are more easily accessed for data collection than working people.

This gap in the literature leads to the following research question: Do working people's perceptions of their employment affect their start-up intention? Understanding objective factors related to the current paid jobs affecting individual entrepreneurial intention can assist organisations and businesses in designing appropriate jobs to retain talents and policymakers in taking measures to promote the start-up trend among highly potential entrepreneurs.

Theoretically, this study fills in the research gap and contributes to the literature on entrepreneurship by providing new and challenging insights into the relationship between job satisfaction and entrepreneurial intention that are in contrast to traditional views. It also demonstrates the usefulness of using combined theories to investigate the relationship of entrepreneurial intention with both objective external factors related to the current paid jobs in coordination with well-researched internal factors in previous studies.

The following sections will present the theoretical background, development of hypotheses, methodology, findings, discussion and managerial implications, contributions, and limitations of the study.

## LITERATURE REVIEW AND HYPOTHESES DEVELOPMENT

A career is a collection of individual choices throughout a person's professional life with different occupational possibilities (Costa *et al.*, 2016), including paid jobs and self-employment. Adults can also use their experience in career success as the basis for career transition planning (Gianakos, 1999). The transition from paid jobs to self-employment, such as starting up a business, is examined under such theoretical models as the entrepreneurship event model, the theory of planned behaviour, and the job characteristics model which are briefly introduced below.

Shapero and Sokol (1982) developed entrepreneurship event model (EEM), a typical model for entrepreneurial intention. They suggest that 'inertia' directs human behaviour until there are some trigger events to disturb or displace it. In the case of entrepreneurs, 'trigger events' such as job change or quit, marriage, divorce or migration, etc., are called 'entrepreneurial events' and can potentially boost the entrepreneurship activities of individuals. In EEM, when the 'entrepreneurial events' occur, the entrepreneurial intention can only arise when the entrepreneurial potential including the perception of desirability, feasibility and propensity to act exists.

On the internal side of the intention, Ajzen's theory of planned behaviour (1991) explores three determinants of human behavioural intent: personal attitudes towards the behaviour's outcomes, subjective norms, and perceived behavioural control. In entrepreneurship, the expected outcomes are well-being, autonomy, and community benefits (Jeno & Diseth, 2014). Ajzen's perceived behavioural control coincides with Shapero and Sokol's views on feasibility.

On the external side related to the paid job of employees' intention, Hackman and Oldham's (1980) the job characteristics model stated that jobs can be designed with desirable characteristics to create a work environment for high intrinsic motivation of employees. In this model, satisfied psychological states play the mediation role, helping job characteristics to create expected outcomes of motivation, satisfaction and work effectiveness and efficiency. Appropriate job characteristics may invoke three psychological states: perceived work meaningfulness, perceived work responsibility and perceived work results. To be motivational, a job must present at least one of the three characteristics of meaningfulness, autonomy, and feedback. High intrinsic work motivation will promote job satisfaction and then affect the behaviours of an employee at the workplace (organisation commitment).

The three theoretical models set the foundation for hypotheses connecting the following concepts: entrepreneurial intention, job satisfaction, and attitude towards entrepreneurship.

*Entrepreneurial intention* is the psychological state of individuals that leads to their personal choices of working for themselves rather than for someone else or organisations. From the psychology science perspective, the entrepreneurial intention is the best predictor of start-up behaviour (Bagozzi & Bluedorn, 1989). An individual may have the potential to be an entrepreneur because of having competency and self-efficacy but may not transform such potential into entrepreneurship in the absence of start-up intention (Krueger Jr *et al.*, 2000).

*Job satisfaction* is a combination of the psychological, physical, and environmental factors that makes a person truthfully satisfied with his or her job (Hoppock, 1935). A person chooses a different job to seek higher job satisfaction based on the compatibility between personal values and job characteristics. According to Douglas and Shepherd (2000), a person's entrepreneurial choice occurs when one compares starting a business with a best-paid job and concludes that the start-up can bring higher satisfaction based on the coordination of income, risks, required efforts, and freedom. Other studies also present similar findings on the predictability of job satisfaction on the entrepreneurial intention with proxies of intention for quitting current jobs to start up a business (Eisenhauer, 1995; Lee *et al.*, 2011; Watson *et al.*, 1998).

With the view that *attitude towards entrepreneurship* is better at predicting entrepreneurial behaviours than personal traits or demographic features, Robinson *et al.* developed the entrepreneurial attitude orientation scale (EAO) (Robinson *et al.*, 1991). Generally, there are two approaches to the nature of attitude. In the first approach, attitude is unidimensional and fully reflected in emotional responses (Fishbein & Ajzen, 1977). The EAO was constructed based on the second view that attitude is the combination of multi-faceted human reactions to things, including affection, cognition, and conation. Cognition refers to the belief and thoughts of individuals about the target objects. Affection includes either positive or negative emotions about the targets. Meanwhile, conation covers behavioural intention and propensity to act in a particular manner toward the targets. Attitudes towards entrepreneurship can change over time, depending on the personal perception of entrepreneurship-related factors based on work experience and personal experience (Lee & Wilbur, 1985).

### **Relation Between the Perception of Current Job Characteristics and Job Satisfaction**

Job satisfaction can be considered a measure of fitness between individuals and their jobs, for example when the job characteristics match the values that employees seek. In the presence of fitness, employees are motivated at work and then satisfied with their job. According to Weiner (2000), job satisfaction depends on the work's nature including work challenges, work autonomy, variety of working skills, and the scope of work. The finding is identical to the studies on job satisfaction based on the job characteristics model of Hackman and Oldham (1980) with three groups of factors described below.

*The perception of work meaningfulness* includes positive meaning at work, meaning created from work, and motivation to create more significant meaning. The experienced meaningfulness at work is the primary driver of a worker's psychological state (Spreitzer, 1995), which leads to current-job satisfaction and other consequences such as occupational commitment and organisational commitment. In contrast, jobs that do not either require skill variety or allow for recognizing contribution to the whole will reduce the awareness of meaningfulness. The absence of meaningfulness creates negative sentiment at work and decreases life well-being, then reduces job satisfaction and generates the intention to find a new job as a replacement. The arguments result in the following hypothesis:

**H1:** The perception of current work meaningfulness has a positive impact on the current job satisfaction of young working people.

*The perception of work responsibility* is related to autonomy at work. An individual with a high perception of control can have high expectations of autonomy at work, reflected in the assigned authorities during operations. The perception of control is regarded as one of the potential variables with impacts on entrepreneurial intention in many studies in various contexts over different demographic groups. Perception of control overlaps with one of the aspects of perceived personal performance (Jeno & Diseth, 2014). A job with low responsibility and no empowerment can reduce work motivation and job satisfaction. It leads to the following hypothesis:

**H2:** The perception of current work responsibility has a positive impact on the current job satisfaction of young working people.

*The perception of work results* refers to the degree to which a job provides directional and transparent information about employees' work effectiveness and efficiency. The more specific and transparent the goals are, the easier it is to appraise work performance (Locke & Latham, 1984). Through work results, individuals can assess if they have achieved critical milestones, and such achievements promote job satisfaction in general. Besides, the perception of work results is related to work feedback. Perception of job satisfaction is established based on a comparison between individual self-defined objectives and actual performance recognised in a feedback process. A well-feedbacked job with the results that can be perceived clearly will improve the employees' intrinsic motivation by satisfying their needs for achievement, increasing their job satisfaction. It results in the following hypothesis:

**H3:** The perception of current work results has a positive impact on the current job satisfaction of young working people.

#### **The Relationship Between Current Job Satisfaction and Entrepreneurial Intention of Young Working People**

Job satisfaction can be identified as an 'entrepreneurial event' in the EEM. Current job dissatisfaction can trigger potential desires and capabilities of entrepreneurship and urge individuals to commit entrepreneurial acts (Gilad & Levine, 1986). Eisenhauer (1995) confirmed that employees have motivation for a start-up when the current job provides lower satisfaction than the potential start-up. Besides, entrepreneurship is considered a risky career choice that can produce greater gains. However, based on the human psychology of comparing gain and loss, Kahneman (1979) found that low current job satisfaction can be interpreted as a loss due to not meeting the values that individuals seek, and this induces individuals to choose riskier career choices such as entrepreneurship. Many other studies on entrepreneurial intention share the conclusions on the adverse impacts of job satisfaction on entrepreneurial intention (Jeong & Choi, 2017; Noorderhaven *et al.*, 2004; Werner *et al.*, 2014). These lead to the following hypothesis:

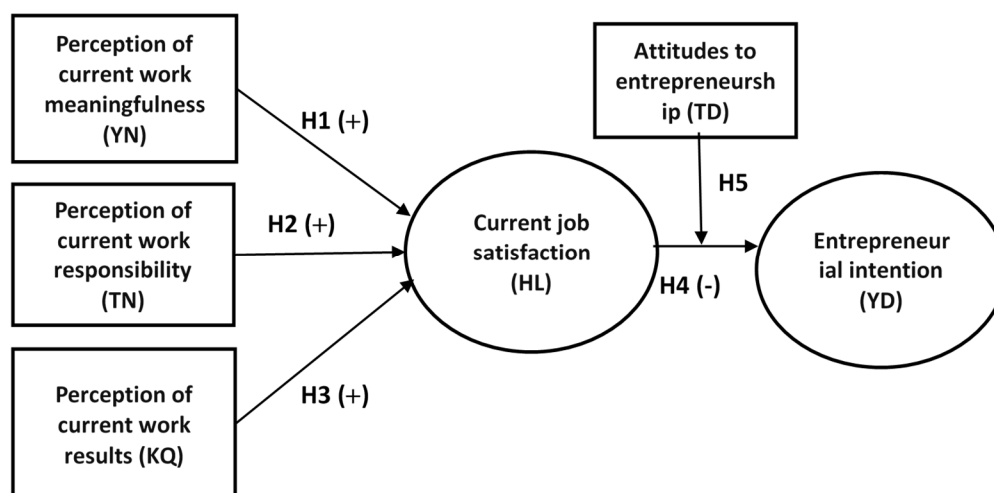
**H4:** Current job satisfaction has a negative effect on the entrepreneurial intention of young working people.

#### **Moderation Effect of Attitude Towards Entrepreneurship on the Relationship Between Job Satisfaction and Entrepreneurial Intention**

According to the EEM, job satisfaction can be considered a potential entrepreneurial event. Current job dissatisfaction will be followed by such behaviours as the loss of organisational commitment and job commitment, quitting a job, and finding an alternative. Then start-up can be an alternative professional choice; it replaces the inertia of the current job. However, in that case, the entrepreneurial intention arises only when young people already have entrepreneurial potential, in which a positive attitude towards entrepreneurship or entrepreneurial desire is one of the most critical potential factors. Therefore, the attitude towards entrepreneurship is expected to moderate and enhance the transition from current job dissatisfaction to the entrepreneurial intention of young working people. It results in the following hypothesis:

**H5:** Attitudes toward entrepreneurship moderate the relationship between the current job satisfaction and entrepreneurial intention of young working people.

The five hypotheses mentioned above form the proposed research model in Figure 1.



**Figure 1. The proposed research model**

Source: own elaboration.

## RESEARCH METHODOLOGY

### Measurements

To measure factors in the research model, the authors utilised scales developed in previous studies with similar target respondents and contexts. The scale of perception of work meaningfulness (YN) was selected from the research by Steger *et al.* (2012). It includes six observable variables of the positive meaning of the job itself (a meaningful career), the meaning created by the job (contribution to personal growth, contribution to life's meaning, help in understanding self) and the motivation to create greater meaning (make sense of the world around).

Perception of work responsibility (TN) was measured by Walsh *et al.* (1980) scale with three variables about respondents making many decisions, having a say in decisions affecting their jobs, and right to decide how to do with the jobs.

Perception of work results (KQ) was measured by four observable variables on the scale of Zondag (2004). Examples are having a good idea of whether one person is doing a good job, being confident about results, and being aware of the performance. One statement was in the reversed form of 'I regularly wonder whether this work produces any results.'

The current job satisfaction (HL) scale with three items is referred to Lee *et al.* (2011). The items were 'satisfied with current job,' 'look forward to going to work every morning,' and one in reversed form of 'often think about quitting current job.'

Attitude toward entrepreneurship (TD) was measured by five observable variables. The statements referred to entrepreneurship as 'beneficial,' 'pleasant,' 'worthy,' 'good,' and 'enjoyable.' The measurement was about the expectation of the potential outcomes of entrepreneurship.

Entrepreneurial intention (YD) included three observable variables from the scale of Yang *et al.* (2015). The variables were 'start my own business in the near future,' 'have established an entrepreneurial plan and going to execute it in the near future,' and one reversed statement of 'not engage in activities related to entrepreneurship in the near future.' The scale reflects respondents' capability to conduct behaviours in the future.

The final questionnaire included observable variables in the format of statements. Respondents were asked to assess their levels of agreement with the statements on a five-point Likert scale (1 – totally disagree, 5 – totally agree). The reverse technique was used for three variables of KQ2, HL3, and YD2.

Demographic information as control variables consisted of education, areas of occupation, gender, family background, and regional culture. These variables were selected based on findings from previous studies with the same dependent variable and compatible target respondents. For example, entrepreneurship-related education has a positive effect on the entrepreneurial intention of young people (Doan Xuan Toan & Phan Thi Thu Hien, 2020; Hunjra *et al.*, 2011). Moreover, higher education specialisation influences entrepreneurial intention. Based on social identity theory, Maresch *et al.* (2016) found that people with an education background in science, engineering, and technology have lower intention to establish businesses than people in economics and business. The current area of occupation has a similar effect. In terms of gender, men are more likely to start-up businesses than women, especially in Vietnam, where Asian ideology is prevalent, and there are many psychological and social barriers to women doing business (Nguyen Cuong, 2018). Moreover, a family business background is a booster for young people to start up because of their inheritance and early-life experience with family business interaction (Schoon & Duckworth, 2012).

Moreover, regional culture also influences entrepreneurial intention as community values affect the individual perspectives of entrepreneurship (Nguyen *et al.*, 2009). In particular, people in the South of Vietnam are more generous and open-minded; the Southern culture is strongly Westernised and inclusive. Therefore, values favourable to entrepreneurship, such as autonomy, achievement, and individual performance, are well respected, which makes people have sympathetic views of business start-ups. In contrast, the Northern and Central regions have a long tradition of agriculture cultivation; people there respect collectivism, avoid uncertainty and highly appreciate the 'Yin character' (Tran Ngoc Them, 2001). Such a culture is not a suitable environment for entrepreneurial intention.

### Sample and Data Collection

Data were collected by convenience sampling technique with an online questionnaire for respondents from Ho Chi Minh City within a month (from April to May 2021). The authors sent out the online link to the prepared questionnaire to their professional networks in Ho Chi Minh. The respondents had to sign up using an email address to access and complete the questionnaire.

### Data Analysis

After data preparation, the authors conducted descriptive statistics, measurement reliability tests, confirmatory factor analysis (CFA) and structural equation modelling (SEM) analysis for the research model. Although there are no significant differences in analysis between AMOS and PLS-SEM in SmartPLS (Purwanto *et al.*, 2020), PLS-SEM is more appropriate for less stringent data. Moreover, AMOS with CB-SEM encounters an issue of auto-splitting data in the case of continuous moderating variables, which reduces the significance of moderating effect. This problem is solved by PLS-SEM in SmartPLS (Aguinis, 1995). Besides, because of the better capacity for illustration of moderating variable analysis in SmartPLS 3.0, the study used both AMOS and SmartPLS 3.0 to ensure cross-checking for analysis reliability and visual presentation of results.

## RESULTS AND DISCUSSION

The survey received 430 responses, with 310 respondents (72%) among the targeted group of young working people, of which 272 were valid responses. The demographic description of the respondents is presented in Table 1. In the sample, women (175 people, accounting for 64.3%) were double the number of men (97, equivalent to 35.7%). Participants from Southern provinces accounted for 61%, and 39% from the North and the Central regions. The sample structure was representative of the actual population of Ho Chi Minh City, the most significant metropolitan in Vietnam, with immigrants from around the country. In total, 43% of participants had family members running businesses. Participants with an education background in natural sciences and engineering/technology or business, economics, and finance accounted for the most considerable proportions of 43.8% and 38.6% respectively. This structure is in line with official statistics of university students' structure in the year 2016-2017 published by the Ministry of Education and Training; the two sectors account for 35.3%

and 30.1%, respectively. Significant numbers of participants worked in business, economics, finance or engineering and manufacturing sectors, accounting for 40.4% and 31.3% respectively, which is in line with the labour demand structure in Ho Chi Minh City in the year 2020 according to official statistics. Therefore, the research sample is representative.

Only 20.2% of the participants were already attending entrepreneurship courses. Therefore, it was evident that entrepreneurship training was not widely implemented in the post-high-school education system in Vietnam.

**Table 1. Demographic description of the research sample**

Description	Values	Percentage	Comments
<b>Gender</b>	Male	35.7%	The number of women is nearly double that of men.
	Female	64.3%	
<b>Regions of origin</b>	The North	11.0%	Appropriate with the survey in Ho Chi Minh City with a large number of immigrants from all over the country of Vietnam.
	The South	61.0%	
	The Central region	28.0%	
<b>Qualifications/ Education</b>	Natural sciences and engineering /technology	43.8%	Relatively compatible with the structure of formal university students in the academic year 2016-2017 in statistics by the Ministry of Education and Training in Vietnam.
	Social sciences and humanities, education	12.1%	
	Business – Economics – Finance	38.6%	
	Arts	0.4%	
	Health	5.1%	
<b>Sectors of current jobs</b>	Public administration – Public services	7.0%	Appropriate with the labour market demand in Ho Chi Minh City in the 2020 Report on Labour Market.
	Education and training	8.1%	
	IT (Information Technology)	2.9%	
	Business – Economics – Finance	40.4%	
	Engineering/Manufacturing	31.3%	
	Law	7.4%	
	Environment/ Agriculture	2.9%	
<b>Entrepreneurial courses</b>	Attended	20.2%	Entrepreneurship training has yet to be implemented in the higher education.
	Never attend	80.1%	
<b>Family background</b>	Family members doing business	43.0%	-
	No family members doing business	57.0%	

Source: own study.

The assessment of scale reliability shows that most scales had Cronbach’s alpha over 0.7 (from 0.742 to 0.905) and the corresponding corrected item-total correlations of over 0.5. Only variable KQ1 had a low corrected item-total correlation value ( $0.462 < 0.5$ ), and its drop does not significantly affect Cronbach’s alpha and the significance of the scale of work result perception. Therefore, it was removed (then Cronbach’s alpha changed from 0.742 to 0.722). Consequently, the set of scales after dropping KQ1 was qualified to implement confirmatory factor analysis (CFA).

### Confirmatory Factor Analysis (CFA)

Figure 2 shows the qualified goodness of fit of the research model with the sample size of over 200 and 12-30 observable variables (Hair, 2019) with  $\chi^2/df = 2.093 < 3$ ; TLI = 0.913 > 0.9; CFI = 0.933 > 0.9;  $0.03 < RMSEA = 0.052 < 0.08$ . Therefore, the proposed model was appropriate for the collected data.

The quality of observable variables was guaranteed with standardised regression weights of over 0.5 (from 0.505 to 0.916) and statistically significant (P-value < 0.05).

Standardised factor loadings of observable variables of each factor were all over the recommended threshold of 0.5. The composite reliability (CR) of the factors ranged from 0.769 to 0.909, greater than 0.7 (Table 2). Therefore, the six factors in the proposed model were qualified for reliability.

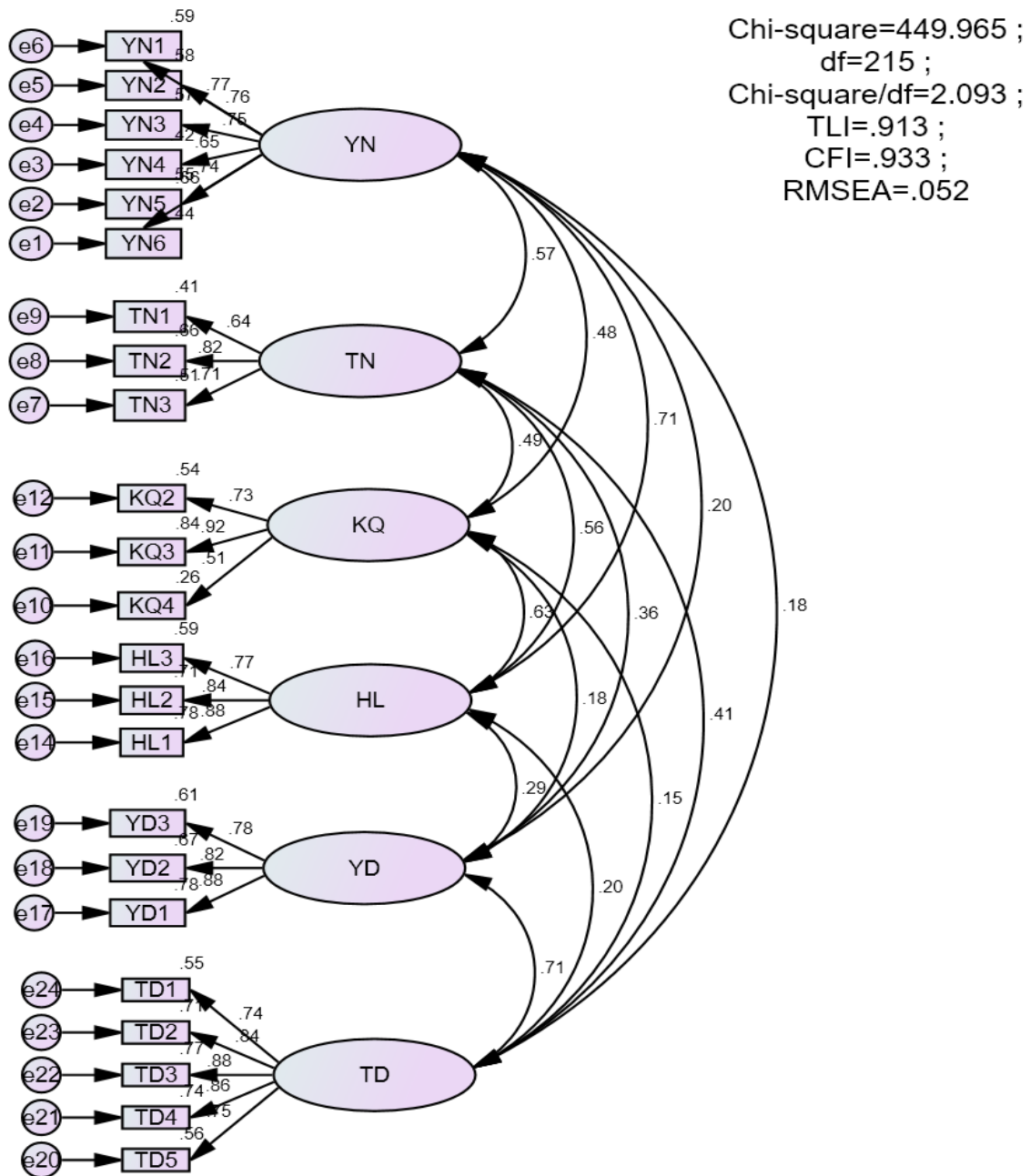


Figure 2. The CFA analysis results

Source: own elaboration.

The average variance extracted (AVE) values of the six latent variables ranged from 0.529 to 0.693, greater than the threshold of 0.5 (Table 2), so the six factors of the research model were qualified for convergent validity.

The maximum shared variance (MSV) of the factors were lower than their corresponding AVE. Besides, the square root of the AVE of each factor was higher than its inter-construct correlations (Table 2), which showed the discriminant validity of the six latent variables in the model.

Therefore, the proposed model was appropriate with the collected data and valid to test hypotheses with the results below.

**Table 2. Factor validity in CFA analysis**

Factor	CR	AVE	MSV	MaxR(H)	YN	TD	YD	HL	TN	KQ
YN	0.869	0.526	0.504	0.873	<b>0.725</b>					
TD	0.909	0.667	0.498	0.918	0.184**	<b>0.817</b>				
YD	0.869	0.688	0.498	0.878	0.199**	0.706***	<b>0.830</b>			
HL	0.871	0.693	0.504	0.881	0.710***	0.198**	0.292***	<b>0.833</b>		
TN	0.769	0.529	0.324	0.788	0.569***	0.414***	0.361***	0.559***	<b>0.727</b>	
KQ	0.773	0.544	0.395	0.870	0.478***	0.151*	0.183*	0.628***	0.492***	<b>0.738</b>

Note: † p < 0.100; \* p < 0.050; \*\* p < 0.010; \*\*\* p < 0.001

Source: own study.

**Model Test by PLS-SEM**

Figure 3 presents the testing results of the structural equation model using PLS-SEM by SmartPLS 3 (Ringle *et al.*, 2015). According to which, the model is fit with valid indicators surpassing critical thresholds: SRMR = 0.065 < 0.08 (Hu & Bentler, 1999);  $\chi^2/df = 3.27 < 5$ ; NFI = 0.812 (approaching 1) (Lohmöller, 1989). Constructs of YN, TN, and KQ explain 49.9% of the variance of job satisfaction (HL), and the model can explain 44.5% of the variance of entrepreneurial intention (YD) (Table 3).

An estimation utilising Bootstrapping technique with 1,000 sub-samples showed that the moderation of attitude (TD) was not statistically significant (p-value = 0.943 > 0.05), therefore, the hypothesis H5 was rejected. In an SEM analysis with a moderation effect, the moderator appeared twice: firstly, in the form of an independent variable with a direct effect on the dependent variable (TD) and secondly, in the form of an interaction between the moderator and the other independent variable (HL\*TD). However, the direct impact of attitudes on the entrepreneurial intention of young working people was significant (p < 0.05) with an estimated coefficient of 0.623.

Constructs of perceived meaningfulness YN, responsibility TN, and the results KQ of current jobs have a direct and positive effect on job satisfaction HL. Among which, the perceived meaningfulness YN had the most significant impact (0.418), followed by perceived results KQ (0.316) and perceived responsibility TN (0.129). Consequently, hypotheses H1, H2, and H3 were accepted.

**Table 3. Parameters of PLS-SEM model and research hypothesis testing**

Hypothesis testing results					Model parameters		
Relation	Estimates	P Values	Hypothesis	Conclusion	Adjusted R <sup>2</sup>	HL	0.499
HL -> YD	0.263	<b>0.000</b>	H4	Rejected		SRMR	YD
HL*TD -> YD	-0.002	<b>0.943</b>	H5	Rejected	d_ULS		1.181
KQ -> HL	0.316	<b>0.000</b>	H3	Accepted	d_G		0.441
TD -> YD	0.623	<b>0.000</b>	-	-	Chi-Square		704.611
TN -> HL	0.129	<b>0.014</b>	H2	Accepted	NFI		0.812
YN -> HL	0.418	<b>0.000</b>	H1	Accepted			

Source: own study.

Moreover, the relationship between job satisfaction HL and entrepreneurial intention YD was also significant (0.263, p-value = 0.000). Table 4 presents the significant mediating relations (p-value < 0.05). Therefore, the current job satisfaction HL mediates the positive effects of perception of meaningfulness YN, responsibility TN, and the results of KQ of current jobs on entrepreneurial intention YD of young working people. However, with the hypothesis of a negative effect of job satisfaction on entrepreneurial intention, hypothesis H4 was rejected, and this significant relation invited explanation in the discussion.

Control variables of entrepreneurship education and family's business background had no impact on entrepreneurial intention, with T-test p-value of 0.474 and 0.685, respectively. However, gender had a significant effect with higher entrepreneurial intention among men over women (p-value = 0.022 < 0.05).



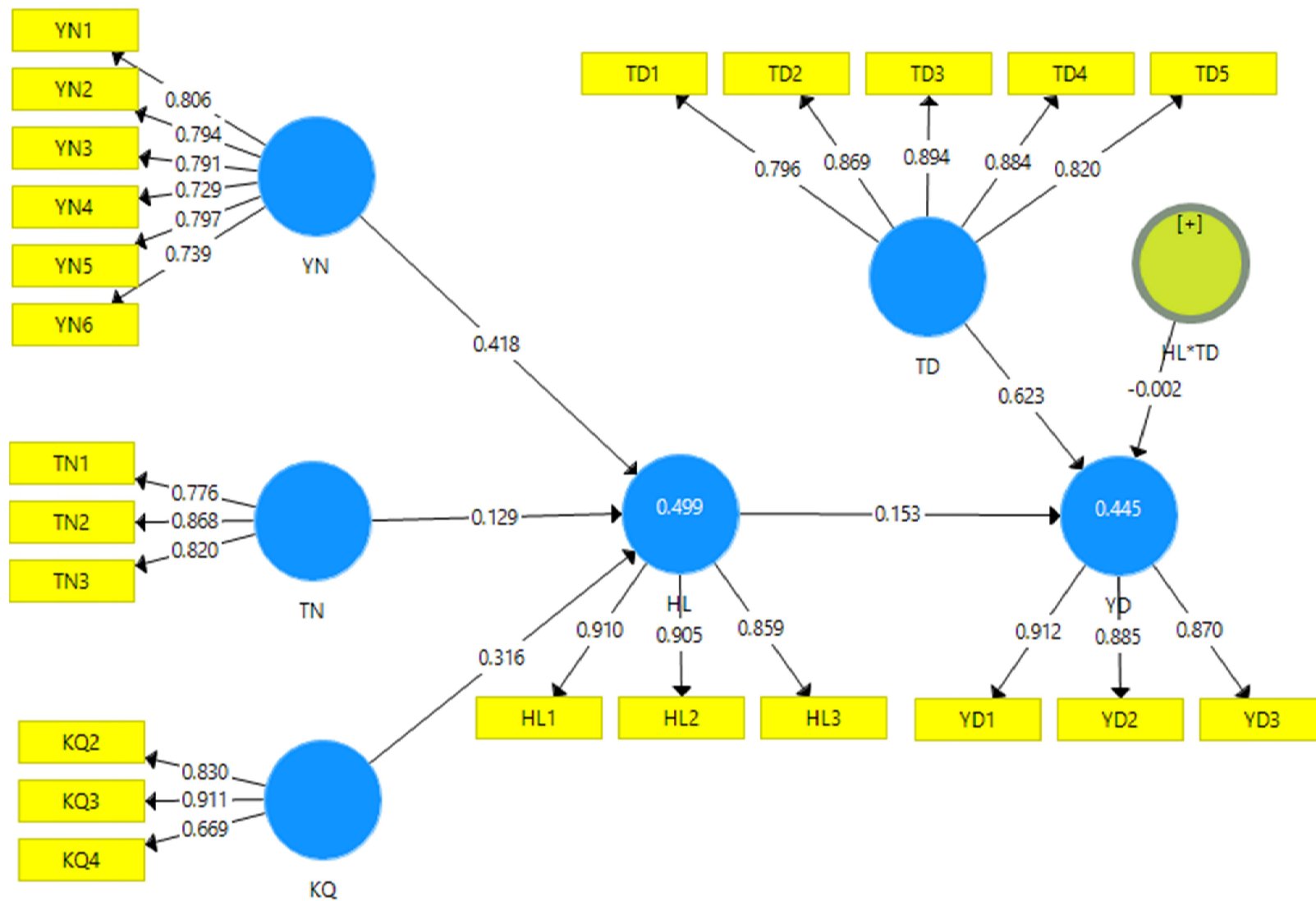


Figure 3. PLS-SEM model testing result

Source: own elaboration.

**Table 4. Assessment of indirect effect in the research model**

Relation	Original Sample Mean	Sample Mean	Standard Deviation	T Statistics	P Values
YN → HL → YF	0.110	0.110	0.031	3.517	<b>0.000</b>
TN → HL → YD	0.034	0.034	0.017	2.022	<b>0.043</b>
KQ → HL → YD	0.083	0.083	0.027	3.111	<b>0.002</b>

Source: own study.

Data of regions of origin, qualifications, and sectors of current jobs were re-organised to ensure the minimum of 30 items in each subgroup (Ross, 2019). The ANOVA test showed that regional culture and qualification in terms of higher education majors had no effect on entrepreneurial intention (with a p-value of 0.876 and 0.143, respectively). Nevertheless, the Welch test showed a significant difference (Sig. = 0.003 < 0.05) among different work sectors; post hoc analysis with the Tamhane test with a significance of 0.05 indicated that the entrepreneurial intention of workers in engineering, manufacturing, and technology was higher than that of other groups. Thus, the sector of current jobs impacts the entrepreneurial intention of young working people.

Thus, the constructs of perception of work meaningfulness, results, and responsibility positively affect current job satisfaction with the explanation of nearly 50% of variance, just as suggested by Hackman and Oldham (1980). The perception of work meaningfulness has a positive effect on job satisfaction ( $\beta = 0.418$ ), which is similar to previous studies on the work values that generation Y (1980-1999) desire. Berkup (2014) and Hershatter and Epstein (2010) suggest that people of Generation Y have working motivation when they can feel meaningfulness and responsibility at work. The values go beyond professional qualifications toward a work-life balance (Hershatter & Epstein, 2010).

Perception of work results had a positive effect on job satisfaction ( $\beta = 0.316$ ), which is in line with one of the outstanding characteristics of the young generation as reported in the study by Berkup (2014). Young people expect work feedback as a guarantee that they are going in the right direction and making progress (Hershatter & Epstein, 2010). Moreover, the under-30 age group is used to structured and guiding feedback like scores, comments on their education (Jusoh *et al.*, 2011). They consider feedback as a sign of being recognised by the community (Korn, 2010), and it helps meet their demand for precise appraisal and a competitive work environment (Berkup, 2014).

Perception of work responsibility has a positive effect on job satisfaction ( $\beta = 0.129$ ), similar to the findings of Berkup (2014), in which young people demand autonomy in their jobs and companies' issues and expect that their personal opinions are needed to handle tasks related to them. Schawbel (2012) stated that Generation Y wants to work for a good cause and contribute to the organisation's development. The research findings with a high average score (greater than 3.5) of work responsibility support the idea that young people want to work in an environment with a certain autonomy.

Current job satisfaction has a positive impact on the entrepreneurial intention of young working people, in contrast with the findings of previous studies (Blaese *et al.*, 2021; Li *et al.*, 2022). Using data from 39,394 employees from 27 countries and in a variety of occupations, Li *et al.* (2022) confirmed the negative relationship between job satisfaction and entrepreneurial intention through the lens of new institutional theory. Blaese *et al.* (2021) strengthened this support with research on academics and their spin-off intention in Switzerland. However, the unexpected result corresponds with the findings of Schjoedt and Shaver (2007), in which first-time entrepreneurs were more satisfied with their previous paid jobs than those who do not start up a business. Entrepreneurs or potential entrepreneurs are usually more optimistic and active than others; they have to adapt to risks and uncertainty brought about by creating a new business (Busenitz & Barney, 1997). In other words, optimistic and active people tend to experience higher job satisfaction (Isen & Baron, 1991).

With the aspects reflected by the scale used in this study, the current job satisfaction construct also represents the personal perception of respondents' start-up competencies. The high perception of personal competencies can strengthen and enhance entrepreneurial intention by the mediation of the perception of behavioural capabilities, which is corresponding to the theory of planned behaviour (TPB) (Ajzen, 1987).

According to Orlando *et al.* (2021), entrepreneurial intention originates from the search for opportunities for employment with higher status in emerging economies. In Vietnam, an emerging country, it is certain that competent individuals can choose start-up business to achieve a higher career status.

Besides, high current job satisfaction in the survey shows that respondents were 'over-satisfied' with what their current jobs bring. It may mean that young people think they have 'overcome' challenges and are ready to replace their current jobs with new ones to seek new challenges. As D'Amato and Herzfeldt (2008) concluded, young generations (Generations X and Y) will only be committed to organisations in the presence of learning and personal development opportunities. After that, entrepreneurship, which offers more learning potential as it is highly challenging and risky, will be the most suitable alternative. Besides, generation Y has lower organisational commitment than older people (Hoole & Bonnema, 2015); and they even have the idea of 'no company' (Dries *et al.*, 2008). Despite jobs with high satisfaction, young people still desire to be their own boss with a self-secured career instead of being dependent on organisations.

The attitude toward entrepreneurship had no moderating effect on the relationship between current job satisfaction and entrepreneurial intention, but it had a direct and positive impact on the entrepreneurial intention of young people. The findings are consistent with Ajzen's theory of planned behaviour (1987).

## CONCLUSIONS

The research findings show that perception of work meaningfulness, responsibility, and results positively affect job satisfaction. In turn, current job satisfaction is the mediator among positive effects of perception of job characteristics on entrepreneurial intention. The findings contribute to the knowledge background on factors promoting job satisfaction and entrepreneurial motivation of young working people. Managerial implications are recommended for employers, organisations assisting the start-up ecosystem, and training institutions to reach their corresponding managerial goals.

### Managerial Implications

As the results of the three predictors of job satisfaction show, to increase employees' satisfaction, organisations should design meaningful jobs with appropriate empowerment and frequent, transparent work appraisal. Jobs ought to include in their design many opportunities for learning, professional development, and life-skill-development as young people appreciate the values that jobs bring to the community and society. Leaders and managers should apply a democratic style, listen to opinions to make final decisions, assign jobs together with specific authorities, and appraise based on job performance. Feedback for jobs should be clear and transparent. However, an organisation should also create an intra-entrepreneurial working environment to take advantage of the employees' start-up intention and keep the talents. Employees should have opportunities to start-up ventures in the workplace.

For the education sector and organisations responsible for promoting the start-up ecosystem, it is necessary to provide entrepreneurial knowledge in the education system to gradually improve the attitudes toward entrepreneurship. In parallel, organisations can build orientation programs and training courses on entrepreneurial skills for this group to develop suitable entrepreneurial qualities.

### Contributions, Limitations, and Further Studies

This research answered the research question 'do working people's perceptions of their employment affect their start-up intention?' in a way that challenges the theoretically and empirically supported notion that higher job satisfaction decreases employees' intention to start up and vice versa. Apart from determining the impacts of work-related factors on job satisfaction, the study discovered the positive effect of current job satisfaction on the entrepreneurial intention of young working people. This finding can be explained by the characteristics of personalities, needs, and job orientation of the respondents who were part of Generation Y. However, it is recommended to conduct further studies with carefully selected and more representative respondents to test the relationship.

The research made some significant contributions; however, limitations are unavoidable in terms of the gender structure of respondents and the survey scope of Ho Chi Minh City, which affected the generalisation capacity. Nonetheless, it was consistent with the fact that women are more likely to respond to the survey than men. Further studies should utilise a large sample with a more balanced gender structure.

Personality attributes greatly affect entrepreneurial determination (Ciavarella *et al.*, 2004). Therefore, in the presence of opportunities, some people will have the motivation to transition to a start-up, while others choose to stay with their paid jobs for their whole working life (Wijethunge *et al.*, 2020). The participation of those with no entrepreneurial motivation in the study can create bias in the findings. Future studies should focus on respondents with entrepreneurial transition potential to well-isolate the effects of current job satisfaction on entrepreneurial intention.

## REFERENCES

- Ajzen, I. (1987). Attitudes, traits, and actions: Dispositional prediction of behavior in personality and social psychology. *Advances in Experimental Social Psychology*, 20, 1-63. [https://doi.org/10.1016/S0065-2601\(08\)60411-6](https://doi.org/10.1016/S0065-2601(08)60411-6)
- Ajzen, I. (1991). The theory of planned behavior. *Organizational Behavior and Human Decision Processes*, 50(2), 179-211. [https://doi.org/10.1016/0749-5978\(91\)90020-T](https://doi.org/10.1016/0749-5978(91)90020-T)
- Azoulay, P., Jones, B.F., Kim, J.D., & Miranda, J. (2020). Age and high-growth entrepreneurship. *American Economic Review: Insights*, 2(1), 65-82. <https://doi.org/10.1257/aeri.20180582>
- Bagozzi, B., & Bluedorn, R. (1989). The relationship between corporate entrepreneurship and entrepreneurial intention. *Strategic Management Journal*, 20, 21-44.
- Bentler, P.M., & Bonett, D.G.J.P.b. (1980). Significance tests and goodness of fit in the analysis of covariance structures. *Psychological Bulletin*, 88(3), 588-606. <https://doi.org/10.1037/0033-2909.88.3.588>
- Berkup, S.B. (2014). Working with generations X and Y in generation Z period: Management of different generations in business life. *Mediterranean Journal of Social Sciences*, 5(19), 218-218. <https://doi.org/10.36941/mjss>
- Blaese, R., Noemi, S., & Brigitte, L. (2021). Should I stay, or should I go? job satisfaction as a moderating factor between outcome expectations and entrepreneurial intention among academics. *International Entrepreneurship and Management Journal*, 17(3), 1357-1386. <https://doi.org/10.1007/s11365-021-00744-8>
- Busenitz, L.W., & Barney, J.B. (1997). Differences between entrepreneurs and managers in large organizations: Biases and heuristics in strategic decision-making. *Journal of Business Venturing*, 12(1), 9-30. [https://doi.org/10.1016/S0883-9026\(96\)00003-1](https://doi.org/10.1016/S0883-9026(96)00003-1)
- Ciavarella, M.A., Buchholtz, A.K., & Riordan, C.M., *et al.* (2004). The Big Five and venture survival: Is there a linkage?. *Journal of Business Venturing*, 19(4), 465-483. <https://doi.org/10.1016/j.jbusvent.2003.03.001>
- Costa, S.F., Caetano, A., & Santos, S.C. (2016). Entrepreneurship as a career option: do temporary workers have the competencies, intention and willingness to become entrepreneurs?. *The Journal of Entrepreneurship*, 25(2), 129-154. <https://doi.org/10.1177/0971355716650363>
- D'Amato, A., & Herzfeldt, R. (2008). Learning orientation, organizational commitment and talent retention across generations: A study of European managers. *Journal of Managerial Psychology*, 23(8), 929-953. <https://doi.org/10.1108/02683940810904402>
- Doan Xuan Toan, & Phan Thi Thu Hien (2020). The impact of entrepreneurial education on entrepreneurial intention: The case of Vietnamese. *Management Science Letters*, 10(8), 1787-1796. <https://doi.org/10.5267/j.msl.2019.12.040>
- Doanh, Duong Cong (2021). The role of contextual factors on predicting entrepreneurial intention among Vietnamese students. *Entrepreneurial Business and Economics Review*, 9(1), 169-188. <https://doi.org/10.15678/EBER.2021.090111>
- Douglas, E.J., & Shepherd, D.A. (2000). Entrepreneurship as a utility maximizing response. *Journal of Business Venturing*, 15(3), 231-251. [https://doi.org/10.1016/S0883-9026\(98\)00008-1](https://doi.org/10.1016/S0883-9026(98)00008-1)
- Dries, N., Pepermans, R., & De Kerpel, E. (2008). Exploring four generations' beliefs about career: Is "satisfied" the new "successful"?. *Journal of Managerial Psychology*, 23(8), 907-928. <https://doi.org/10.1108/02683940810904394>

- Eisenhauer, J.G. (1995). The entrepreneurial decision: Economic theory and empirical evidence. *Entrepreneurship Theory Practice*, 19(4), 67-79. <https://doi.org/10.1177/104225879501900405>
- Ensher, E.A., Murphy, S.E., & Sullivan, S.E. (2002). Reel women: Lessons from female TV executives on managing work and real life. *Academy of Management Perspectives*, 16(2), 106-120. <https://doi.org/10.5465/ame.2002.7173564>
- Fishbein, M., & Ajzen, I. (1977). Belief, attitude, intention, and behavior: An introduction to theory and research. *Philosophy and Rhetoric*, 10(2), 130-132.
- Gartner, W.B. (1990). What are we talking about when we talk about entrepreneurship?. *Journal of Business Venturing*, 5(1), 15-28. [https://doi.org/10.1016/0883-9026\(90\)90023-M](https://doi.org/10.1016/0883-9026(90)90023-M)
- GEN. (2020). The Global Startup Ecosystem Report 2020. Retrieved from <https://startupgenome.com/reports/gser2020> on August 27, 2022.
- Gianakos, I. (1999). Patterns of career choice and career decision-making self-efficacy. *Journal of Vocational Behavior*, 54(2), 244-258. <https://doi.org/10.1006/jvbe.1998.1668>
- Gilad, B., & Levine, P. (1986). A behavioral model of entrepreneurial supply. *Journal of Small Business Management*, 24(4), 45-53.
- Hackett, G., & Betz, N.E. (1981). A self-efficacy approach to the career development of women. *Journal of Vocational Behavior*, 18(3), 326-339. [https://doi.org/10.1016/0001-8791\(81\)90019-1](https://doi.org/10.1016/0001-8791(81)90019-1)
- Hackman, J.R., & Oldham, G.R. (1980). *Work Redesign*. Reading, Mass: Addison-Wesley.
- Hair, J.F.J., Black, W.C., Babin, B.J., & Anderson, R.E. (2019). *Multivariate Data Analysis* (Eighth Edition ed.). United Kingdom: Cengage.
- Hershatler, A., & Epstein, M. (2010). Millennials and the world of work: An organization and management perspective. *Journal of Business Psychology*, 25(2), 211-223. <https://doi.org/10.1007/s10869-010-9160-y>
- Hoole, C., & Bonnema, J. (2015). Work engagement and meaningful work across generational cohorts. *SA Journal of Human Resource Management*, 13(1), 1-11. <https://doi.org/10.4102/sajhrm.v13i1.681>
- Hoppock, R. (1935). *Job Satisfaction*. New York: Harper and Brothers.
- Hu, L.T., & Bentler, P.M. (1999). Cutoff criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives. *Structural Equation Modeling: a Multidisciplinary Journal*, 6(1), 1-55. <https://doi.org/10.1080/10705519909540118>
- Hunjra, A.I., Ahmad, H.M., Rehman, K.U., & Safwan, N. (2011). Factors influencing intention to create new venture among young graduates. *Africa Journal of Business Management*, 5(1), 121-127.
- Ison, A.M., & Baron, R.A. (1991). Positive affect as a factor in organizational-behavior. *Research in Organizational Behavior*, 13, 1-53.
- Jeno, L.M., & Diseth, Å. (2014). A self-determination theory perspective on autonomy support, autonomous self-regulation, and perceived school performance. *Reflecting Education*, 9(1), 1-20.
- Jeong, J., & Choi, M. (2017). The expected job satisfaction affecting entrepreneurial intention as career choice in the cultural and artistic industry. *Sustainability*, 9(10), 1-16. <https://doi.org/10.3390/su9101689>
- Jusoh, M., Simun, M., & Chong, S.C. (2011). Expectation gaps, job satisfaction, and organizational commitment of fresh graduates. *Education+Training*, 53(6), 515-530. <https://doi.org/10.1108/00400911111159476>
- Kahneman, D. (1979). Prospect theory: An analysis of decisions under risk. *Econometrica*, 47, 313-327. <https://doi.org/10.2307/1914185>
- Korn, K.J.M. (2010). A second look at generational differences in the workforce: Implications for HR and talent management. *People Strategy*, 33(2), 50.
- Krueger Jr, N.F., Reilly, M.D., & Carsrud, A.L. (2000). Competing models of entrepreneurial intentions. *Journal of Business Venturing*, 15(5-6), 411-432. [https://doi.org/10.1016/S0883-9026\(98\)00033-0](https://doi.org/10.1016/S0883-9026(98)00033-0)
- Lee, L., Wong, P.K., Der Foo, M., & Leung, A. (2011). Entrepreneurial intentions: The influence of organizational and individual factors. *Journal of Business Venturing*, 26(1), 124-136. <https://doi.org/10.1016/j.jbusvent.2009.04.003>
- Lee, R., & Wilbur, E.R. (1985). Age, education, job tenure, salary, job characteristics, and job satisfaction: A multivariate analysis. *Human Relations*, 38(8), 781-791. <https://doi.org/10.1177/001872678503800806>
- Li, J., Yang, F., Qi, J., Sun, R., & Geng, R. (2022). The influence of job satisfaction on entrepreneurial intention: a cross-level investigation. *International Small Business Journal*, 40(3), 385-402. <https://doi.org/10.1177/02662426211018831>

- Locke, E.A., & Latham, G.P. (1984). *Goal Setting: A Motivational Technique that Works!*. Englewood Cliffs, NJ: Prentice-Hall.
- Lohmöller, J.B. (1989). *Latent Variable Path Modeling with Partial Least Squares*. Springer Science & Business Media.
- Maresch, D., Harms, R., Kailer, N., & Wimmer-Wurm, B. (2016). The impact of entrepreneurship education on the entrepreneurial intention of students in science and engineering versus business studies university programs. *Technological Forecasting Social Change*, *104*, 172-179. <https://doi.org/10.1016/j.techfore.2015.11.006>
- Mihalcea, A.D., Mitan, A., & Vițelar, A. (2012). Generation Y: views on entrepreneurship. *Economia. Seria Management*, *15*(2), 277-287.
- Nguyễn Anh Tuấn, Do, T.H.H., & Vu, T.B.T., et al. (2019). Factors affecting entrepreneurial intentions among youths in Vietnam. *Children Youth Services Review*, *99*, 186-193. <https://doi.org/10.1016/j.childyouth.2019.01.039>
- Nguyen Cuong (2015). Entrepreneurial intention in Vietnam: Same as everywhere?. *Journal of Asia Entrepreneurship Sustainability*, *11*(4), 108-135. <https://doi.org/10.2139/ssrn.3906124>
- Nguyen Cuong (2018). Demographic factors, family background and prior self-employment on entrepreneurial intention-Vietnamese business students are different: why?. *Journal of Global Entrepreneurship Research*, *8*(1), 1-17. <https://doi.org/10.1186/s40497-018-0097-3>
- Nguyen Xuan Truong (2020). Factors Affecting Entrepreneurial Decision of Nascent Entrepreneurs Belonging Generation Y in Vietnam. *The Journal of Asian Finance, Economics, Business*, *7*(8), 407-417. <https://doi.org/10.13106/jafeb.2020.vol7.no8.407>
- Nguyen, T.V., Bryant, S.E., Rose, J., Tseng, C.H., & Kapasuwana, S. (2009). Cultural values, market institutions, and entrepreneurship potential: A comparative study of the United States, Taiwan, and Vietnam. *Journal of Developmental Entrepreneurship*, *14*(01), 21-37. <https://doi.org/10.1142/S1084946709001120>
- Noorderhaven, N., Thurik, R., Wennekers, S., & Van Stel, A. (2004). The role of dissatisfaction and per capita income in explaining self-employment across 15 European countries. *Entrepreneurship Theory Practice*, *28*(5), 447-466. <https://doi.org/10.1111/j.1540-6520.2004.00057.x>
- OECD (1998). Fostering entrepreneurship. *Industries Services and Trade*, *16*(1), 277-290.
- Orlando, B., Tortora, D., & Riso, T., et al. (2021). Entrepreneurial intentions and high-status seeking in career expectations: a portrait of talents in emerging countries. *The International Journal of Human Resource Management*, *32*(1), 1-34. <https://doi.org/10.1080/09585192.2021.1875495>
- Purwanto, A., Asbari, M., & Santoso, T.I., et al. (2020). Social and Management Research Quantitative Analysis for Medium Sample: Comparing of Lisrel, Tetrad, GSCA, Amos, SmartPLS, WarpPLS, and SPSS. *Jurnal Ilmiah Ilmu Administrasi Publik*, *10*(2), 518-532.
- Ringle, C.M., Wende, S., & Becker, J.M. (2015). *SmartPLS 3: Bönningstedt: SmartPLS*. Retrieved from <http://www.smartpls.com> on August 30, 2021.
- Ross, A. (2019). *Basic and Advanced Statistical Tests: Writing Results Sections and Creating Tables and Figures*. Leiden, The Netherlands: Brill.
- Schawbel, D. (2012). Millennials vs. baby boomers: Who would you rather hire. Retrieved from <https://business.time.com/2012/03/29/millennials-vs-baby-boomers-who-would-you-rather-hire/> on August 20, 2021.
- Schjoedt, L., & Shaver, K.G. (2007). Deciding on an entrepreneurial career: A test of the pull and push hypotheses using the panel study of entrepreneurial dynamics data. *Entrepreneurship Theory Practice*, *31*(5), 733-752. <https://doi.org/10.1111/j.1540-6520.2007.00197.x>
- Schoon, I., & Duckworth, K. (2012). Who becomes an entrepreneur? Early life experiences as predictors of entrepreneurship. *Developmental Psychology*, *48*(6), 1719. <https://doi.org/10.1037/a0029168>
- Shapiro, A., & Sokol, L. (1982). The social dimensions of entrepreneurship. *Encyclopedia of Entrepreneurship*. Englewood Cliffs, NJ: Prentice-Hall, 72-90.
- Spreitzer, G.M. (1995). Psychological empowerment in the workplace: Dimensions, measurement, and validation. *Academy of Management Journal*, *38*(5), 1442-1465. <https://doi.org/10.5465/256865>
- Steger, M.F., Dik, B.J., & Duffy, R.D. (2012). Measuring meaningful work: The work and meaning inventory (WAMI). *Journal of Career Assessment*, *20*(3), 322-337. <https://doi.org/10.1177/1069072711436160>
- Terjesen, S. (2005). Senior women managers' transition to entrepreneurship: Leveraging embedded career capital. *Career Development International*, *10*(3), 246-259. <https://doi.org/10.1108/13620430510598355>

- Tran Ngoc Them. (2001). *Return to the Tenet of Vietnam Culture*: NXB TP. Hồ Chí Minh.
- Tran Thi Hong Lien. (2021). A brief history of innovative startups in Vietnam and the role of public policies. *Journal of Trade Science*, 157, 107-116.
- VCCI. (2016). *Provincial Competitive Index PCI 2016*. Retrieved from <https://pcivietnam.vn/an-pham/bao-cao-pci-2016-ct170> on 7th July 2021
- Walsh, J.T., Taber, T.D., & Beehr, T.A. (1980). An integrated model of perceived job characteristics. *Organizational Behavior Human Performance*, 25(2), 252-267. [https://doi.org/10.1016/0030-5073\(80\)90066-5](https://doi.org/10.1016/0030-5073(80)90066-5)
- Watson, K., Hogarth-Scott, S., & Wilson, N. (1998). Small business start-ups: success factors and support implications. *International Journal of Entrepreneurial Behavior Research*, 4(3), 217-238. <https://doi.org/10.1108/13552559810235510>
- Weiner, S.P. (2000). *Worldwide technical recruiting in IBM: Research and action*. PD Bachiochi (Chair), Attracting and keeping top talent in the high-tech industry. Practitioner Forum at the Fifteenth Annual Conference of the Society for Industrial and Organizational Psychology, New Orleans, LA.
- Werner, A., Gast, J., & Kraus, S. (2014). The effect of working time preferences and fair wage perceptions on entrepreneurial intentions among employees. *Small Business Economics*, 43(1), 137-160. <https://doi.org/10.1007/s11187-013-9528-2>
- Wijethunge, W., Tennakoon, W., & Dilshani, A. (2020). *What Prevent Them Shifting? Perceived Barriers of Employee Transition to Entrepreneurship: A Concept Paper*. Paper presented at the International Conference on Business and Information (ICBI) Faculty of Commerce and Management Studies, University of Kelaniya, Sri Lanka.
- Yang, K.P., Hsiung, H.H., & Chiu, Y.J. (2015). The comfort zone of the value circumplex for entrepreneurship: a structural analysis. *Career Development International*, 20(6), 663-683. <https://doi.org/10.1108/CDI-07-2014-0087>
- Zondag, H.J. (2004). Knowing you make a difference: Result awareness and satisfaction in the pastoral profession. *Review of Religious Research*, 45(3), 254-268. <https://doi.org/10.2307/3512263>.


### Authors

The contribution share of authors is 65% for Tran Thi Hong Lien and 35% for Nguyen Duy Hoang.

#### Tran Thi Hong Lien

A lecturer at the Faculty of Business Administration, University of Economics and Law, Vietnam National University – Ho Chi Minh City. She holds a Ph.D. degree in Management. Her research interests are entrepreneurship, leadership and corporate governance.


**Correspondence to:** Prof. dr. Tran Thi Hong Lien, University of Economics and Law, Faculty of Business Administration, Room 406 Building B2, No. 669 National Road No.1, Quarter 3, Linh Xuan Ward, Thu Duc, Ho Chi Minh City, Vietnam. e-mail: [lienth@uel.edu.vn](mailto:lienth@uel.edu.vn)

**ORCID**  <http://orcid.org/0000-0001-7755-638X>

#### Nguyen Duy Hoang

He holds an MBA degree and is starting his research journey with an interest in entrepreneurship issues.

**Correspondence to:** Mr Nguyen Duy Hoang, University of Economics and Law, Faculty of Business Administration, Room 406 Building B2, No. 669 National Road No.1, Quarter 3, Linh Xuan Ward, Thu Duc, Ho Chi Minh City, Vietnam. e-mail: [hoangnd19607@sdh.uel.edu.vn](mailto:hoangnd19607@sdh.uel.edu.vn)

**ORCID**  <http://orcid.org/0000-0002-1627-0852>

### Acknowledgements and Financial Disclosure

We would like to express our gratitude to the participants involved in this research. There are no financial conflicts of interest to disclose.

### Conflict of Interest

The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

### Copyright and License



This article is published under the terms of the Creative Commons Attribution – NoDerivs (CC BY-ND 4.0) License  
<http://creativecommons.org/licenses/by-nd/4.0/>

Published by Cracow University of Economics – Krakow, Poland



Ministry of Education and Science  
Republic of Poland

The journal is co-financed in the years 2022-2024 by the Ministry of Education and Science of the Republic of Poland in the framework of the ministerial programme "Development of Scientific Journals" (RCN) on the basis of contract no. RCN/SP/0583/2021/1 concluded on 13 October 2022 and being in force until 13 October 2024.





# Entrepreneurial self-efficacy among first-year undergraduates: Gender, creative self-efficacy, leadership self-efficacy, and field of study

Paula Alvarez-Huerta, Alexander Muela, Inaki Larrea

## ABSTRACT

**Objective:** To contribute to a better understanding of the factors that influence university students' confidence in their ability to engage in entrepreneurial behaviours.

**Research Design & Methods:** Participants were 1741 first-year students (792 women, 949 men) from two Spanish universities (Mage = 18.76, SD = 1.82). They were enrolled in degree programmes in two broad fields: engineering and architecture, and social sciences and law. Using a quantitative cross-sectional design, we obtained measures of creative self-efficacy, leadership self-efficacy, and entrepreneurial self-efficacy.

**Findings:** Results showed that both leadership self-efficacy and creative self-efficacy predicted entrepreneurial self-efficacy, although creative self-efficacy was the variable that contributed most to the expected change in entrepreneurial self-efficacy. There were also differences in entrepreneurial self-efficacy according to gender and field of study, with students enrolled in a technical field and men in general scoring higher. Mediation-moderation analysis showed that creative self-efficacy mediated the relationship between gender and entrepreneurial self-efficacy, and also that the field of study buffered the effect of gender on entrepreneurial self-efficacy.

**Implications & Recommendations:** The results of this study showed that entrepreneurial self-efficacy is predicted by creative self-efficacy and leadership self-efficacy, and hence both these variables should be addressed by training initiatives aimed at promoting entrepreneurship among undergraduates, particularly among young women. Moreover, our results highlighted the importance of taking into consideration individuals' educational backgrounds when analysing students' entrepreneurial self-efficacy.

**Contribution & Value Added:** This research contributes to the literature on entrepreneurship by identifying factors that influence the entrepreneurial self-efficacy of university students. The findings highlight the importance of considering creative self-efficacy when analysing students' entrepreneurial development. Furthermore, we show that creative self-efficacy has a mediating effect on the association between gender and entrepreneurial self-efficacy, and also that this relationship is moderated by students' fields of study. Overall, these results suggest that reinforcing the creative self-efficacy of women could help to close the gender gap in entrepreneurial self-efficacy. It might also be useful to design specific training initiatives for undergraduates enrolled in social sciences, the aim of which would be to foster an entrepreneurial culture and encourage them to recognize their potential role as entrepreneurs.

**Article type:** research article

**Keywords:** gender; entrepreneurship; self-efficacy; leadership; creativity

**JEL codes:** A22

Received: 16 March 2022

Revised: 14 December 2022

Accepted: 16 December 2022

## Suggested citation:

Alvarez-Huerta, P., Muela, A., & Larrea, I. (2022). Entrepreneurial self-efficacy among first-year undergraduates: Gender, creative self-efficacy, leadership self-efficacy, and field of study. *Entrepreneurial Business and Economics Review*, 10(4), 73-90. <https://doi.org/10.15678/EBER.2022.100405>

## INTRODUCTION

Entrepreneurial competence is regarded as one of the key factors underpinning self-realization, employability, citizen participation, and social inclusion (European Union, 2019). It is defined as the ability

to transform opportunities and ideas into products and services of value, and it has been linked to innovation and socioeconomic growth (Nowiński *et al.*, 2019). As a result, there is growing interest among researchers in understanding what leads individuals to pursue an entrepreneurial career (Nabi *et al.*, 2015; Newman *et al.*, 2019). Identifying variables that may influence the development of entrepreneurial competence is especially important in the case of young adults who are embarking upon higher education (Newman *et al.*, 2019; Obschonka *et al.*, 2017). A better understanding of the factors influencing university students' entrepreneurial competence would help to institutionalise entrepreneurial culture and to inform emerging research on entrepreneurship (Al-Mamary & Alshallaqi, 2022).

One issue of particular interest concerns students' beliefs about their entrepreneurial capabilities, that is to say, their entrepreneurial self-efficacy (Newman *et al.*, 2019; Nowiński *et al.*, 2019). The notion of entrepreneurial self-efficacy is informed by social cognitive theory and it refers to the degree of confidence that individuals have in their ability to perform tasks and roles associated with entrepreneurship (Chen *et al.*, 1998). Research suggests that people who are more confident in this respect are more likely to pursue an entrepreneurial career (Newman *et al.*, 2019). A close relationship was similarly found between high levels of entrepreneurial self-efficacy and behaviours associated with entrepreneurship (Dempsey & Jennings, 2014; Hmieleski & Corbett, 2007).

Regarding the variables that may influence the development of entrepreneurial self-efficacy among university students, it is important to recognise that this capability is underpinned by different kinds of self-efficacy (Fuller *et al.*, 2018). For instance, research found that creative self-efficacy is an important precursor of creative effort and performance (Mathisen & Bronnick, 2009), and in the entrepreneurial context, it was shown that a person's creative confidence beliefs play a key role in decisions about whether or not to embark on an entrepreneurial career (Fuller *et al.*, 2018). Furthermore, a number of recent studies (Fuller *et al.*, 2018; Naz *et al.*, 2020) examined the relationship between leadership and stronger entrepreneurial self-efficacy. In the education context, albeit the variables capable of influencing entrepreneurial activity (Škare *et al.*, 2022), were generally studied separately. The present study seeks to address this gap by analysing the influence of both creative self-efficacy and leadership efficacy on students' confidence in their ability to engage in entrepreneurship.

In addition to examining how students' confidence in their ability to become entrepreneurs may be shaped by different types of self-efficacy, it is also necessary to consider the role of their field of study (Teixeira & Forte, 2015). One of the most influential models for studying educational and occupational choices is the social cognitive career theory (Lent & Brown, 2019). According to it, people's professional and academic decisions are determined by various contextual factors, one of which is self-efficacy (Bandura, 1997; Lent & Brown, 2019). However, studies of entrepreneurial intentions conducted in the higher education setting tend either to include business students only or fail to consider (and therefore control for) the possible influence of the field of study (Teixeira & Forte, 2017; Tsang, 2019).

Furthermore, in view of the considerable evidence of a gender difference in the intention to become an entrepreneur, with women being less likely than men to report such intentions (Dempsey & Jennings, 2014), another aim of the study was to analyse gender differences in students' entrepreneurial self-efficacy. A recent report by the Global Entrepreneurship Monitor (GEM, 2019) highlighted the gender gap that exists in the early stages of business development, which in the European Union is reflected in the fact that women are less likely than their male peers to embark upon an entrepreneurial career (OECD/European Union, 2019). This inequality was linked to sex-role stereotypes within the entrepreneurial world (Ahl, 2006; Alsos *et al.*, 2013), a phenomenon that has been observed among European MBA students (Mueller & Conway Dato-on, 2013) and which has the potential to affect women's entrepreneurial self-efficacy and intentions. In recent decades, various studies have examined gender differences in entrepreneurial self-efficacy. Some of these studies, carried out in a higher education context, found that women have on average lower levels of entrepreneurial self-efficacy than men (Dempsey & Jennings, 2014; Wilson *et al.*, 2009), a finding replicated in a Spanish context (Díaz-García & Jiménez-Moreno, 2010). However, other studies have observed no gender differences in entrepreneurial self-efficacy among university students (Mueller & Dato-On, 2008; Zhao *et al.*, 2005). It has been suggested that these inconclusive results are due to insufficient consideration of context (Ng & Fu, 2018), as well as to the multifaceted nature of entrepreneurial self-efficacy (Fuller *et al.*, 2018; Nowiński *et al.*, 2019).

With the aforementioned issues in mind, the primary goal of this study was to explore different factors that might influence university students' confidence in their ability to engage in entrepreneurial behaviours. Understanding more about these relationships would help in designing specific training initiatives aimed at improving students' entrepreneurial competence.

### LITERATURE REVIEW AND HYPOTHESES DEVELOPMENT

Entrepreneurial competence is one of the basic meta-skills that young people need to develop to succeed in modern society (Halberstadt *et al.*, 2019). It is important to note that this competence goes beyond the ability to create innovative organizations. As the European Union indicates (2019), entrepreneurship also implies the development of other skills such as creativity and the sense of initiative, skills that play a key role in a person's professional development (Lans *et al.*, 2014) and which are crucial to fostering an entrepreneurial culture (Edwards-Schachter *et al.*, 2015). The importance of these skills is further underlined by the impact that technology has on our ways of working (OECD, 2019a), a tendency that has intensified during the COVID-19 pandemic (Giones *et al.*, 2020). As several authors point out (Newman *et al.*, 2019; Obschonka *et al.*, 2017), entrepreneurial competence could help future generations to manage these social changes. Similarly, the OECD (2019b) considers that fostering entrepreneurial behaviours among students can help them not only to be better prepared when confronted with uncertainty but also to develop a greater sense of self-worth. Accordingly, and given the implications that entrepreneurial competence has for a person's future performance at work and as a member of society, there is growing interest in how it might be developed within the educational setting, especially within higher education (Nowiński *et al.*, 2019).

An important aspect to consider here concerns people's self-perception beliefs, which according to social cognitive theory play a key role in motivation and goal attainment (Bandura, 1997). These self-efficacy beliefs have been defined as the degree to which a person has confidence in their ability to perform a task successfully in a given context (Bandura, 1997). When faced with an academic or professional challenge, the person's level of self-efficacy will influence their decision to confront the challenge, as well as their level of motivation, preparation, and perseverance in doing so (Bandura *et al.*, 1997). This is why the aforementioned social cognitive career theory (Lent & Brown, 2019) highlights the central role that self-beliefs play in occupational development.

#### Entrepreneurial Self-efficacy

Entrepreneurial self-efficacy refers specifically to person's confidence about their ability to perform the various tasks and roles relevant to entrepreneurship (Newman *et al.*, 2019; Zhao *et al.*, 2005). Research found that people with higher entrepreneurial self-efficacy show stronger entrepreneurial intentions and are more confident in their ability to develop viable business ventures (Gubik, 2021; Newman *et al.*, 2019; Zhao *et al.*, 2005). This pattern of relationships was also observed among university students (Díaz-García & Jiménez-Moreno, 2010; Lanero *et al.*, 2016), in the case of whom studies have specifically found that self-efficacy promotes an entrepreneurial mindset (Wardana *et al.*, 2020) and mediates the impact of entrepreneurial education on intentions (Nowiński *et al.*, 2019). A close relationship between high entrepreneurial self-efficacy and social entrepreneurial intent was also reported in college students (Barton *et al.*, 2018).

#### Creative Self-efficacy

Creativity has been considered the key factor in the development of entrepreneurial competence, because of its role in the identification of possible business opportunities (Ko & Butler, 2007) and in driving organizational innovation (Ip *et al.*, 2018). In this context, the notion of creative self-efficacy, defined as a person's beliefs about their ability to produce creative outcomes (Tierney & Farmer, 2002) became the topic of increasing interest among researchers (Karwowski & Lebeda, 2018), not least following the Covid-19 pandemic (González-Tejero *et al.*, 2022). This relatively recent line of research has revealed associations between creative self-efficacy and creative development at both the individual (Robbins & Kegley, 2010) and team level (Shin & Eom, 2014). Importantly, this rela-

tionship was observed in different contexts, including education (Mathisen & Bronnick, 2009; Robbins & Kegley, 2010), where there is empirical evidence of differences in perceived creativity across students from different degree programmes (Álvarez-Huerta *et al.*, 2019). In the field of entrepreneurship, studies found that individuals high in creative self-efficacy are more likely to explore cognitively the idea of becoming an entrepreneur (Fuller *et al.*, 2018).

### **Leadership Self-efficacy**

In addition to creativity, research also highlighted the importance of leadership as a precursor to entrepreneurial activity (Fuller *et al.*, 2018; Obschonka *et al.*, 2017; Redmond *et al.*, 2017). Although a considerable body of research produced numerous definitions of leadership (Gandolfi *et al.*, 2017), it is generally viewed as a social process through which one person exerts influence over others in order to guide, structure, and facilitate goal achievement and interactions (Yukl, 2006). According to Huszczo and Endres (2017), leaders need a high level of self-awareness. As for leadership self-efficacy, this has been identified as one of the key variables regulating leader functioning in a dynamic entrepreneurial environment (McCormick, 2001). Leadership self-efficacy refers to a person's confidence in their ability to lead others (Dwyer, 2019), and in general, higher leadership self-efficacy has been linked to better leader performance and to more interest and effort towards becoming a better leader (Huszczo & Endres, 2017).

Therefore, given that different kinds of self-efficacy beliefs appear to underlie entrepreneurial self-efficacy (Fuller *et al.*, 2018), one of the hypotheses we examined in the study was that both creative self-efficacy and leadership self-efficacy will predict entrepreneurial self-efficacy among first-year undergraduates.

### **Self-efficacy, Entrepreneurship, and Gender**

Currently, there is a clear gender gap when it comes to entrepreneurial activity (Wieland *et al.*, 2019) and within the European Union women are less likely than men to embark upon an entrepreneurial career (OECD/European Union 2019). Research in this field found that lower entrepreneurial self-efficacy is associated with less propensity towards entrepreneurship and vice versa (Newman *et al.*, 2019), hence it was hypothesised that women engage in fewer entrepreneurial activities, because they have less entrepreneurial self-efficacy than men (Kickul *et al.*, 2008). Furthermore and in addition to the role played by low entrepreneurial self-efficacy, various studies have shown that men tend to report higher creative self-efficacy than women (Karwowski, 2011; Zhou *et al.*, 2012). However, not all authors have found differences in this respect (Zhang & Zhou, 2014). Similarly, some authors reported that women are less confident than men about their leadership capabilities (McCormick *et al.*, 2002; Sheppard, 2018), whereas others found no gender differences in this area (Huszczo & Endres, 2017). As noted earlier, it was suggested that these inconclusive results are due to insufficient consideration of context (Ng & Fu, 2018). Accordingly, the primary goal of the study was to address the need for research in this field beyond the English-speaking world. In Spain, the stereotype of the male entrepreneur appears to persist (Liñán *et al.*, 2022), therefore, we hypothesised that male students in the Spanish universities where this study was carried out will score higher than women on entrepreneurial self-efficacy, creative self-efficacy, and leadership self-efficacy.

Given that various studies (Díaz-García & Jiménez-Moreno, 2010; Lanero *et al.*, 2016) found a positive correlation between students' entrepreneurial self-efficacy and their entrepreneurial intentions, and in light of the well-documented gender gap in entrepreneurial activity (GEM, 2019), it is important to understand more about gender differences in entrepreneurial self-efficacy, especially as the findings to date are inconclusive. As noted earlier, entrepreneurial self-efficacy is underpinned by other types of self-efficacy, such as creativity and leadership (Fuller *et al.*, 2018; Tantawy *et al.*, 2021). Moreover, there is recent evidence that women's perceived confidence to discover, create and use entrepreneurial opportunities can influence their decision to start an entrepreneurial career (Huang *et al.*, 2022). It is therefore of interest to examine the extent to which students' confidence in their ability to generate new ideas and to take the lead in implementing them is influenced by sex-role stereotypes that persist within the entrepreneurial context (Mueller & Conway Dato-on, 2013). Accordingly, we hypothesise

that the relationship between gender and entrepreneurial self-efficacy will be partially explained by the mediation effect of creative self-efficacy and leadership self-efficacy.

A related issue to consider here is that entrepreneurship has traditionally been associated with the so-called hard sciences (natural science or physics), as opposed to the soft sciences (social sciences) (Pilegaard *et al.*, 2010; Rafiei *et al.*, 2019). Given that perceived self-efficacy plays a decisive role in career choice (Lent & Brown, 2019), this association may also be reflected in different levels of self-efficacy among students from different fields of study. In this regard, some authors have noted that students' entrepreneurial potential is rarely addressed outside of business or management programmes (Vazquez-Burguete *et al.*, 2012). However, very few studies have examined the relationship between the field of study and students' confidence in their creative, entrepreneurial and leadership abilities (Teixeira & Forte, 2017). Some hypothesise here that students enrolled in a technical field (engineering and architecture) will score higher than their peers from the social sciences on entrepreneurial self-efficacy, creative self-efficacy and leadership self-efficacy.

Importantly, this issue of field of study interacts with gender, insofar as women are less likely to pursue STEM subjects (*i.e.* science, technology, engineering, and mathematics) in higher education (Wegemer & Eccles, 2019). It has been argued that this is partly a consequence of the negative impact that gender stereotypes have on women's self-perceptions of their ability to follow certain career paths (Tellhed *et al.*, 2017). Interestingly, studies conducted in what have traditionally been regarded as male subject areas, such as engineering, have found that women students in these fields score higher on self-efficacy than women from other degree programmes (Sax & Newhouse, 2019). Accordingly, one would also expect to find greater entrepreneurial self-efficacy among women who enrol in science, mathematics, or engineering degrees, in comparison with their peers studying within the social sciences. If this proved to be the case, it would suggest that the field of study has a moderator effect on the relationship between gender and entrepreneurial self-efficacy, and this is the fifth hypothesis examined in the present study.

### **This Study**

Fostering the kinds of self-efficacy required for entrepreneurial competence is clearly an important task for higher education systems (Vázquez-Burguete *et al.*, 2012) and given that this competence has been associated with more skilled and more successful professionals, as well as with higher life satisfaction, it is important that we understand more about the variables that underpin its development (Al-Mamary & Alshallaqi, 2022). However, despite its importance for young people and their future, there have been few initiatives within universities aimed at promoting entrepreneurial competence among students, especially from a gendered perspective and in those subject areas that have not traditionally been linked to entrepreneurship, that is, social sciences, law, and humanities. In our view, this is in part due to an insufficient understanding within higher education of the variables that may lead to greater entrepreneurial competence. With regard to our own cultural context, strategies to promote entrepreneurship are not yet implemented across the board at Spanish universities, although there are increasing calls to promote entrepreneurship as a competence among the country's higher education students (Vicens *et al.*, 2022).

The present study aims to make three main contributions to the literature on entrepreneurship. The first is to elucidate in more detail how entrepreneurial self-efficacy is influenced by both creative self-efficacy and leadership self-efficacy. As Newman *et al.* (2019) point out, it is crucial to identify the factors that underpin entrepreneurial self-efficacy, a variable that has been shown in recent studies to play the key role in students' entrepreneurial development (Gubik, 2021; Doanh, 2021). Our second goal here is to analyse gender differences in entrepreneurial self-efficacy and to examine whether this relationship is mediated by creative self-efficacy and leadership self-efficacy. The acknowledged gender gap in the field of entrepreneurship underlines the importance of understanding more about why women engage less than men with entrepreneurial ventures (Reissova *et al.*, 2020). Finally, we will examine whether the relationship between gender and entrepreneurial self-efficacy is influenced by the field of study. Analysing how the development of entrepreneurial self-efficacy is shaped by these different factors is an essential first step towards designing strategies aimed at encouraging students

to follow an entrepreneurial career or to exhibit entrepreneurial behaviour in different work contexts. The specific study hypotheses were as follows:

- H1:** Creative self-efficacy and leadership self-efficacy will both predict entrepreneurial self-efficacy among first-year undergraduates.
- H2:** Male students will score higher than their female peers on entrepreneurial self-efficacy, creative self-efficacy, and leadership self-efficacy.
- H3:** The relationship between gender and entrepreneurial self-efficacy will be partially explained by the mediation effect of creative self-efficacy and leadership self-efficacy.
- H4:** Students enrolled in a technical field (engineering and architecture) will score higher than their peers from the social sciences on entrepreneurial self-efficacy, creative self-efficacy, and leadership self-efficacy.
- H5:** The field of study will have a moderator effect on the relationship between gender and entrepreneurial self-efficacy.

## RESEARCH METHODOLOGY

Participants were 1741 first-year students (792 female, 949 male students) from two universities in northern Spain. They were aged between 17 and 27 (mean = 18.76, SD = 1.82) and were enrolled in degree programmes in either a technical field (engineering and architecture,  $n = 683$ ) or the social sciences (social sciences and law,  $n = 1058$ ).

### Measures

*Entrepreneurial self-efficacy.* It was assessed using four items developed by Zhao *et al.* (2005) to measure self-efficacy in relation to specific entrepreneurial tasks. Respondents are asked to indicate on a five-point Likert scale how confident they are (1 = no confidence; 5 = complete confidence) in their ability to identify business opportunities, create new products, think creatively, and commercialize an idea or new development (*e.g.* 'How confident are you in your present readiness for successfully identifying new business opportunities?'). In the present sample, McDonald's  $\omega$  coefficient of reliability was 0.68.

*Creative self-efficacy.* It was measured using the three-item instrument developed by Tierney and Farmer (2002) to assess employees' perceived capacity for creative work. Each item (*e.g.* 'I have confidence in my ability to solve problems creatively') is rated on a seven-point Likert scale ranging from 1 (Totally disagree) to 7 (Totally agree). The instrument has been widely used in educational settings and it has shown good psychometric properties (Robbins & Kegley, 2010). Internal consistency in the present sample was 0.65 (McDonald's  $\omega$ ).

*Leadership self-efficacy.* It was assessed using three items developed originally by Singer (1991) and employed subsequently in studies by Paglis and Green (2002) and Bobbio and Manganelli (2009), showing positive correlations with other measures of leadership self-efficacy. Each item (*e.g.* 'If you were in a leadership position, how effective do you think you would be as a leader?') is rated on a seven-point Likert scale. Internal consistency in the present sample was 0.88 (McDonald's  $\omega$ ).

### Procedure

In order to maximize statistical power for detecting effects of reasonable magnitude, we first determined the optimum sample size using G\*Power (Faul *et al.*, 2007). The calculation indicated that for linear bivariate regression: two groups, with a difference between slopes of 0.015 and power of 95%, a minimum sample of 1446 participants (723 men and 723 women) would be needed. We then used convenience sampling to recruit students from the aforementioned two universities during the 2018-2019 and 2019-2020 academic years. This approach means that the study design was cross-sectional.

Data were then collected using the three instruments described in the previous section, each of which was hosted online in the form of a single survey. The research team explained to students the nature of the study and how to access the survey. It was made clear to them that participation

was voluntary and that all data would remain confidential in accordance with current Spanish legislation to this effect. The study protocol was reviewed and approved by the research ethics committees of both universities.

### Data Analysis

The statistical analysis involved four steps. Firstly, we performed descriptive and bivariate correlation (Pearson) analyses for all variables of interest. We then conducted a linear regression analysis to examine the effect of creative self-efficacy and leadership self-efficacy on entrepreneurial self-efficacy (H1). Next, we performed a multivariate analysis of variance to determine whether gender and the field of study had an influence on creative self-efficacy, leadership self-efficacy, and entrepreneurial self-efficacy (H2 and H3). Finally, we developed a moderated mediation model to test the possible mediator effect of creative self-efficacy and leadership self-efficacy on the relationship between gender and entrepreneurial self-efficacy (H4) and to examine whether this relationship was moderated by field of study (H5). The model was tested using maximum likelihood estimation and 10000 bootstrapping samples at 95% confidence intervals. All data analyses were performed using Mplus 7.4 (Muthén *et al.*, 2016). The conceptual framework of the moderated mediation model is shown in Figure 1.

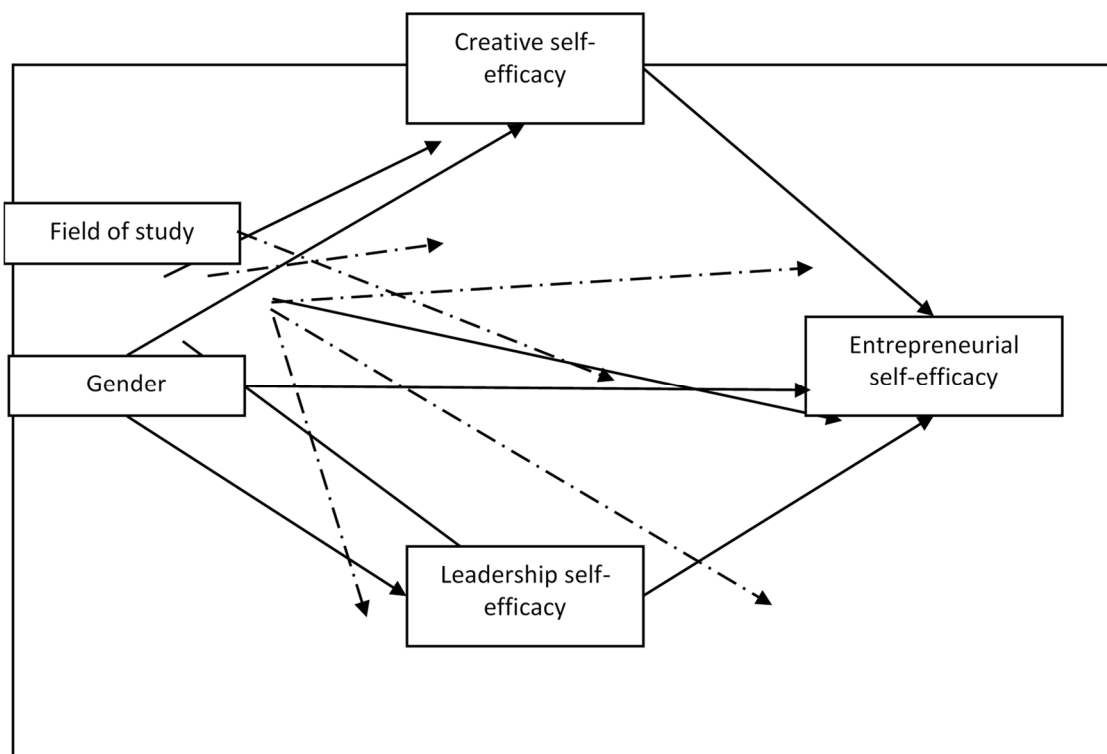


Figure 1. Conceptual framework of the moderated mediation model

Source: own elaboration.

## RESULTS AND DISCUSSION

The results of the descriptive analysis are shown in Table 1.

In the bivariate correlation analysis, entrepreneurial self-efficacy showed positive and significant correlations of moderate magnitude with both creative self-efficacy ( $r = 0.50; p < 0.01$ ) and leadership self-efficacy ( $r = 0.33; p < 0.01$ ). The analysis also revealed a positive and significant correlation of moderate magnitude between creative self-efficacy and leadership self-efficacy ( $r = 0.35; p < 0.01$ ).



**Table 1. Descriptive statistics for the total sample and by gender**

Variables	Total – N = 1741	Female – N = 792	Male – N = 949
Age, <i>M (SD)</i>	18.76 (1.82)	18.44 (1.60)	19.03 (1.94)
Entrepreneurial self-efficacy, <i>M (SD)</i>	14.46 (2.38)	14.21 (2.46)	14.67 (2.29)
Creative self-efficacy, <i>M (SD)</i>	15.45 (2.04)	15.21 (1.98)	15.65 (2.06)
Leadership self-efficacy, <i>M (SD)</i>	15.07 (2.97)	15.02 (2.96)	15.10 (2.99)
Field of study, % (N)			
Social sciences and law	60.77 (1058)	74.37 (598)	25.63 (203)
Engineering and architecture	39.23 (683)	49.42 (469)	50.58 (480)

Source: own study.

In order to test whether creative self-efficacy and leadership self-efficacy predicted entrepreneurial self-efficacy, we performed a multiple linear regression analysis; firstly, in the total sample and then for male and female students separately. In the total sample, the linear model obtained after testing the assumptions of linearity, non-collinearity, independence, normality, and homoscedasticity explained 28% of the variance in entrepreneurial self-efficacy. The results showed that both creative self-efficacy ( $\beta = 0.443$ ,  $z = 22.278$ ,  $p < 0.0001$ ) and leadership self-efficacy ( $\beta = 0.170$ ,  $z = 7.881$ ,  $p < 0.0001$ ) predicted entrepreneurial self-efficacy, thus confirming, as expected, that the higher the creative self-efficacy and leadership self-efficacy, the higher the entrepreneurial self-efficacy. The standardized regression coefficients indicated that creative self-efficacy was the variable that contributed most to the expected change in entrepreneurial self-efficacy. Accordingly, creative self-efficacy accounted for more of the overall fit (17.14%) than leadership self-efficacy, which had a minimal impact in terms of reducing prediction errors (0.25%).

The same pattern of results was observed when performing the analysis by gender. Among male students, both creative self-efficacy ( $\beta = 0.417$ ,  $t = 15.186$ ,  $p < 0.0001$ ) and leadership self-efficacy ( $\beta = 0.213$ ,  $t = 7.798$ ,  $p < 0.0001$ ) predicted entrepreneurial self-efficacy. Female students' scores on entrepreneurial self-efficacy were likewise predicted by both creative self-efficacy ( $\beta = 0.457$ ,  $t = 15.728$ ,  $p < 0.0001$ ) and leadership self-efficacy ( $\beta = 0.130$ ,  $t = 4.049$ ,  $p < 0.0001$ ).

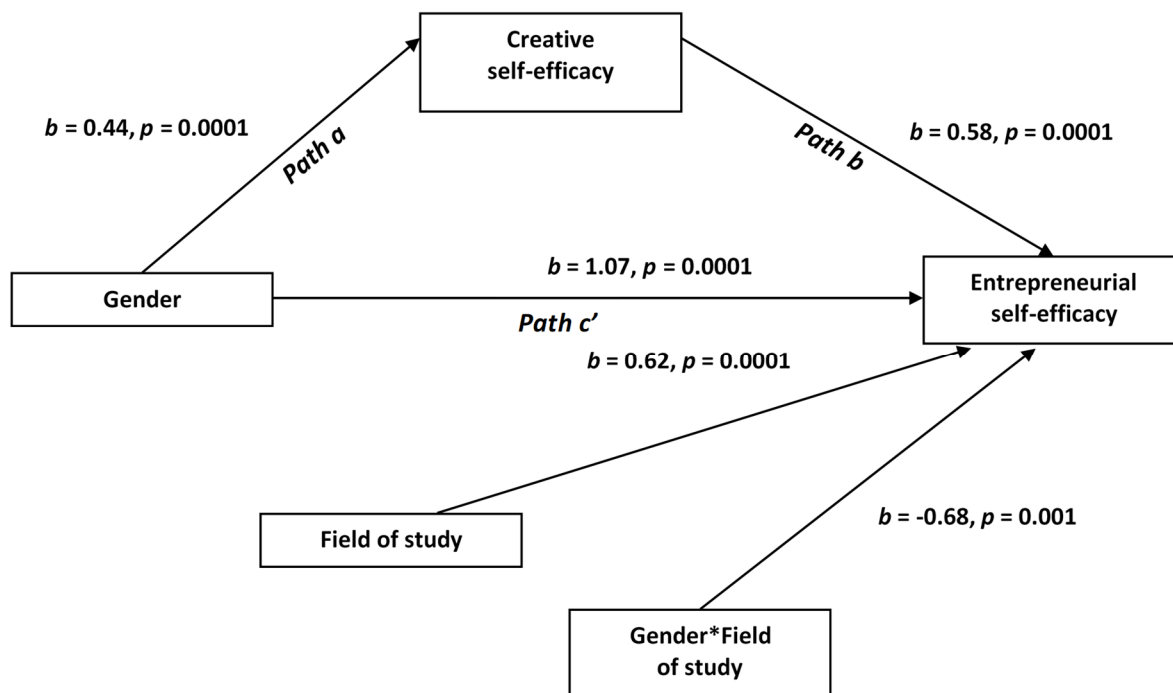
We then performed a multivariate analysis of variance to determine whether gender and the field of study had an influence on creative self-efficacy, leadership self-efficacy, and entrepreneurial self-efficacy. The results of the MANOVA showed that gender had a statistically significant effect on the scores obtained on both entrepreneurial self-efficacy,  $F(1,1735) = 4.362$ ;  $p = 0.037$ , and creative self-efficacy,  $F(1,1735) = 11.434$ ;  $p = 0.001$ . No significant effect was observed for leadership self-efficacy. The effect size associated with gender differences in all three cases was low (Hedges'  $g_{\text{Male-Female}} = 0.19$ , 0.22 and 0.03, respectively). These results indicate that although male students showed more entrepreneurial self-efficacy and creative self-efficacy than their female peers, the differences were small in magnitude.

Regarding the field of study, scores on entrepreneurial self-efficacy differed significantly according to whether students were enrolled in engineering and architecture or social sciences and law,  $F(1,1735) = 10.123$ ;  $p = 0.001$ . However, the field of study did not have an effect on creative self-efficacy or leadership self-efficacy. The effect size associated with the difference in means was small in all cases (Hedges'  $g_{\text{Engineering and Architecture-Social Sciences and Law}} = 0.16$ , 0.13 and 0.07, respectively).

In order to examine the fit of the measurement model derived from the set of instruments used, we performed a confirmatory factor analysis (CFA), using the robust maximum likelihood method for parameter estimation. The proposed model yielded acceptable fit indices:  $\chi^2[32] = 402.411$ ;  $p < 0.001$ ; CFI = 0.933; TLI = 0.905; RMSEA [90% CI] = 0.082 [0.075; 0.089]; SRMR = 0.053. Measurement invariance by gender was also confirmed.

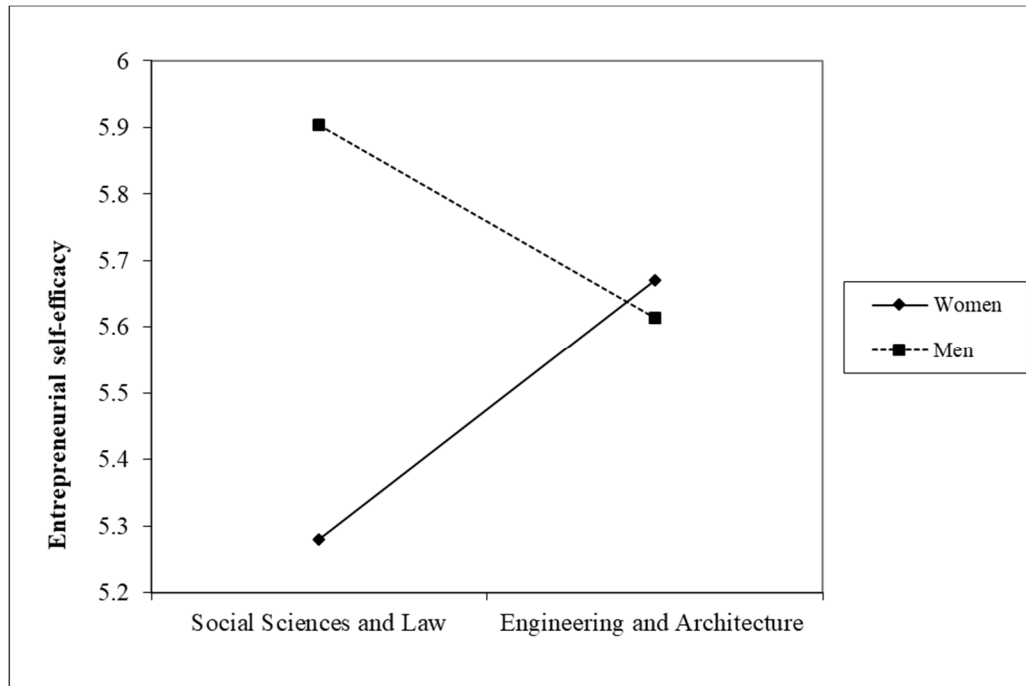
Regarding mediation effects, it can be seen in Figure 2 that gender had a statistically significant indirect effect on entrepreneurial self-efficacy via creative self-efficacy,  $\beta = 0.25$ , 95% CI [0.111; 0.408]. These results indicate that the difference between male and female students in entrepreneurial self-efficacy is partially explained by the higher creative self-efficacy of males. It should be noted that neither the main effect of gender on leadership self-efficacy nor the main effects of the

field of study on creative self-efficacy and leadership self-efficacy were statistically significant. Neither was there an interaction effect of gender and field of study on creative self-efficacy or leadership self-efficacy. Non-significant results were similarly obtained when analysing possible interaction effects of creative self-efficacy and field of study on entrepreneurial self-efficacy, and of leadership self-efficacy and field of study on entrepreneurial self-efficacy. These effects were therefore eliminated from the final model as they did not improve the overall fit ( $\Delta\chi^2 = 7951.371$ ,  $\Delta df = 3$ ). The resulting model showed a good fit:  $\chi^2[2] = 4.405$ ;  $p > 0.05$ .; CFI = 0.966; TLI = 0.984; RMSEA [90% CI] = 0.026 [0.000; 0.060]; SRMR = 0.009.



**Figure 2. Statistical form of the conditional process model (moderated mediation)**  
**Note:** total effect,  $b = 1.33$ , 95% CI [0.194; 0.693]; indirect effect,  $b = 0.25$ , 95% CI [0.111; 0.408].  
 The direction of the arrows represents the direction of the assumed causal flow.  
 The total effect of gender is the difference observed between the means for entrepreneurial self-efficacy in the two groups (men/women).  
 The indirect effect of gender on entrepreneurial self-efficacy is part of the difference in entrepreneurial self-efficacy between men and women resulting from the mediation process that is captured by the product of the non-standardized regression coefficients of Path a and Path b.  
 The direct effect, Path c', estimates the difference in entrepreneurial self-efficacy between males and females on average, independent of the mediation process captured by the indirect effect.  
 Source: own elaboration.

Finally, the analysis showed a negative and statistically significant interaction effect of gender and field of study on entrepreneurial self-efficacy ( $b = -0.68$ ,  $z = -3.404$ ,  $p < 0.001$ ). As visible in Figure 3, female students enrolled in engineering and architecture degrees scored higher on entrepreneurial self-efficacy than did their female peers in social sciences and law, whereas the opposite effect was observed among male students. This indicates that the field of study buffers the effect of gender on entrepreneurial self-efficacy.



**Figure 3. Interaction effect of gender and field of study on entrepreneurial self-efficacy**

Source: own elaboration.

## CONCLUSIONS

The study aimed to contribute to a better understanding of the factors that influence the entrepreneurial self-efficacy of university students. Firstly, we examined whether creative self-efficacy and leadership self-efficacy predicted entrepreneurial self-efficacy. As expected, the analysis revealed a positive correlation between these three variables and more specifically that creative self-efficacy and leadership self-efficacy predicted entrepreneurial self-efficacy. This result is consistent with the literature on the role played by creativity and leadership in shaping a person's entrepreneurial profile (Gonzalez-Tejero *et al.*, 2022; Skare *et al.*, 2022). It also supports research showing how students' confidence in their entrepreneurial capabilities is underpinned by other types of self-efficacy (Fuller *et al.*, 2018; Tantawy *et al.*, 2021), specifically in this case, creative self-efficacy and leadership self-efficacy. Overall, our results suggest the need to address both creative self-efficacy and leadership self-efficacy within training initiatives aimed at promoting the entrepreneurial competence of undergraduates. Importantly, however, our analysis also showed that of the two variables it was creative self-efficacy that contributed most to the expected change in entrepreneurial self-efficacy. This finding, in what to our knowledge is the first study of its kind to be conducted outside the North American context, is in line with previous reports that have emphasized the importance of creative self-efficacy as a driver of innovative behaviour and entrepreneurial confidence, as well as its influence on entrepreneurial decisions and intentions (Fuller *et al.*, 2018; Tantawy *et al.*, 2021), suggesting that creative self-efficacy should be considered the key competence of entrepreneurs.

As to why leadership self-efficacy was a less important predictor of entrepreneurial self-efficacy than creative self-efficacy, the relative contributions of these two variables to perceived entrepreneurial competence have not, to our knowledge, been explored previously in undergraduates. An interesting topic for future research would therefore be to explore how students understand leadership within the entrepreneurship context.

Regarding gender differences, our findings support the notion that women have on average lower levels of self-efficacy than men, which is in line with previous studies involving students from different fields or at different stages of education (Dempsey & Jennings, 2014; Wilson *et al.*, 2009), including

students from Spain (Díaz García & Jiménez Moreno, 2010). Although the effect size of these differences was fairly low, it is nonetheless an important finding, insofar as perceived self-efficacy is known to play a decisive role in career choice (Lent & Brown, 2019). A more important fact is, perhaps, the fact that the students we surveyed were already beginning their degree studies, which suggests that not enough has been done to foster these young women's creative and entrepreneurial skills and self-perceptions prior to university entry. In this respect, our results support the conclusions of a recent report showing that, despite decades of efforts, there continues to be a gender gap in relation to entrepreneurship (OECD/European Union, 2019). This underlines the importance of identifying not only the factors that may influence the development of entrepreneurial competence among university students but also the extent to which their confidence in their ability to generate new ideas and to take the lead in implementing them might be influenced by sex-role stereotypes within the social context (Mueller & Conway Dato-on, 2013; Ng & Fu, 2018).

Another objective of this study was to analyse the potential mediating role of creative self-efficacy and leadership self-efficacy in the relationship between gender and entrepreneurial self-efficacy. As far as we are aware, this has not previously been examined in the entrepreneurial literature. The results showed that the differences between men and women in entrepreneurial self-efficacy are partially explained by the higher creative self-efficacy of men. According to Huang *et al.* (2022), women's entrepreneurship can be supported by strengthening their perceived capacity to discover, create and make use of entrepreneurial opportunities. In this respect, our empirical findings here suggest that promoting women's confidence in their ability to engage in creative tasks could go some way to closing the gender gap in entrepreneurial self-efficacy.

Contrary to expectations, we did not observe a mediation effect of leadership self-efficacy. Although other authors found leadership to be a factor in the choice of an entrepreneurial career (Obschonka *et al.*, 2017), our results – in what to our knowledge is one of the first studies to specifically explore the relationship between leadership self-efficacy and entrepreneurial self-efficacy – suggest that leadership self-efficacy is not the key variable when it comes to explaining gender differences among undergraduates in entrepreneurial self-efficacy.

Moreover, the results support our fourth hypothesis regarding the influence of the field of study on levels of self-efficacy, suggesting the need to include this variable in future analyses of students' entrepreneurial self-efficacy. Given that perceptions of self-efficacy play a role in career choice (Lent & Brown, 2019), the possible explanation for our findings is that social science and law students do not regard entrepreneurship as being essential to their field. In this regard, it should be noted that research on entrepreneurship suggests that entrepreneurial activity has generally been ignored in non-technical fields of study (Pilegaard *et al.*, 2010), which could have a negative impact on the entrepreneurial vision and attitudes of students (Vázquez-Burguete *et al.*, 2012). In a similar vein, Rafiei *et al.* (2019) argue that entrepreneurship has been more readily incorporated into technical disciplines such as engineering, as opposed to the social sciences, despite the fact that the concept of entrepreneurship has emerged from more socially oriented disciplines such as sociology, psychology, and economic and cultural anthropology (Carlsson *et al.*, 2013). These factors may explain, at least in part, why perceptions of entrepreneurship differ across students from different fields of study (Schediwiy *et al.*, 2018). Whatever the case, the nature of work in all productive sectors is changing (Giones *et al.*, 2020; OECD, 2019), and hence it is important to ensure that students from all backgrounds gain and recognize the value of confidence in their entrepreneurial abilities. For students in fields not traditionally associated with entrepreneurship, this will likely require the design and implementation of specific training initiatives aimed at fostering an entrepreneurial culture and helping them to recognize their potential role as entrepreneurs.

A further contribution of the present study is that we examined whether the field of study had a moderator effect on the relationship between gender and self-efficacy. The analysis revealed that women enrolled in engineering and architecture degrees had similar scores on entrepreneurial self-efficacy to their male peers, whereas women enrolled in social sciences and law degrees scored lower on this variable. This illustrates how gender differences in entrepreneurial self-efficacy depend on the field of study. These findings may partly be explained by the negative impact of gender stereotypes on women's self-perceptions of their ability to follow certain career paths (Tellhed *et al.*, 2017), and in

this respect, it should be noted that our results are consistent with previous studies showing that women students who enter what has traditionally been regarded as male subject areas score higher on self-efficacy than do their female counterparts from other disciplinary fields (Sax & Newhouse, 2019). The role of perceived self-efficacy in career choice (Lent & Brown, 2019) could also be relevant here, insofar as female students who enrol in social sciences and law degrees may not perceive entrepreneurial competence to be necessary for their future professional development.

The aforementioned findings have a number of practical implications. Unlike previous studies, we have explored multiple factors that might influence university students' future entrepreneurial activity, providing a reference for research and relevant policy development. More specifically, we show, in a sample of first-year undergraduates, that fostering students' creative confidence may, in addition to being a relevant educational objective in itself, be a plausible strategy for promoting their entrepreneurial self-efficacy. Our results also suggest the need to design specific educational interventions to improve women's confidence in their entrepreneurial capacity. Efforts should also be made to highlight the value of entrepreneurship in academic fields with which it has not traditionally been associated.

The present study has a number of limitations. Firstly, the sample was recruited from just two Spanish universities and hence it is unclear to what extent the results are generalizable. Although we sought to address this limitation by including a considerable number of students from different disciplines, further studies in other knowledge areas, universities and countries are required to confirm the validity of our findings. A related limitation and possible source of bias is the fact that our data were derived from two cohorts of first-year undergraduates. Future research would therefore need to gather data from a wider variety of groups. In this respect, a longitudinal design would be useful not only to confirm the validity of the present findings but also to examine how students' perceptions of their entrepreneurial abilities evolve across the course of their university studies. It would also be interesting to explore the contextual factors associated with higher entrepreneurial self-efficacy. The research focused on observing the real entrepreneurial behaviours of undergraduates is likewise important for examining the role of self-efficacy in predicting their actual behaviour in non-professional contexts.

## REFERENCES

- Ahl, H. (2006). Why research on women entrepreneurs needs new directions. *Entrepreneurship: Theory and Practice*, 30(5), 595-621. <https://doi.org/10.1111/j.1540-6520.2006.00138.x>
- Alsos, G.A., Ljunggren, E., & Hytti, U. (2013). Gender and innovation: State of the art and a research agenda. *International Journal of Gender and Entrepreneurship*, 5(3), 236-256. <https://doi.org/10.1108/IJGE-06-2013-0049>
- Alvarez-Huerta, P., Larrea, I., Muela, A., & Vitoria, J.R. (2019). *Self-efficacy in first-year university students: a descriptive study*. 5th International Conference on Higher Education Advances (HEAd'19). <http://dx.doi.org/10.4995/HEAd19.2019.9226>
- Bandura, A. (1997). *Self-efficacy: The exercise of control*. W.H. Freeman and Company.
- Barton, M., Schaefer, R., & Canavati, S. (2018). To be or not to be a social entrepreneur: Motivational drivers amongst American business students. *Entrepreneurial Business and Economics Review*, 61, 9-35. <https://doi.org/10.15678/EBER.2018.060101>
- Bobbio, A., & Manganelli, A.M. (2009). Leadership Self-Efficacy Scale: A new multidimensional instrument. *TPM-Testing, Psychometrics, Methodology in Applied Psychology*, 16(1), 3-24. <https://doi.org/10.4473/TPM.16.1.1>
- Borghans, L., Duckworth, A.L., Heckman, J.J., & Ter Weel, B. (2008). The economics and psychology of personality traits. *Journal of Human Resources*, 43(4), 972-1059. <https://doi.org/10.1007/BF00019387>
- Bowman, N.A., Miller, A., Woosley, S., Maxwell, N.P., & Kolze, M.J. (2019). Understanding the link between noncognitive attributes and college retention. *Research in Higher Education*, 60(2), 135-152. <https://doi.org/10.1007/s11162-018-9508-0>
- Carlsson, B., Braunerhjelm, P., McKelvey, M., Olofsson, C., Persson, L., & Ylinenpää, H. (2013). The evolving domain of entrepreneurship research. *Small Business Economics*, 41(4), 913-930. <https://doi.org/10.1007/s11187-013-9503>

- Chen, C.C., Greene, P.G., & Crick, A. (1998). Does entrepreneurial self-Efficacy distinguish entrepreneurs from managers?. *Journal of Business Venturing*, 13, 295-316. [https://doi.org/https://doi.org/10.1016/S0883-9026\(97\)00029-3](https://doi.org/https://doi.org/10.1016/S0883-9026(97)00029-3)
- Coleman, S., & Kariv, D. (2014). Deconstructing entrepreneurial self-efficacy: A gendered perspective on the impact of ESE and community entrepreneurial culture on the financial strategies and performance of new firms. *Venture Capital*, 16(2), 157-181. <https://doi.org/10.1080/13691066.2013.863063>
- Dempsey, D., & Jennings, J. (2014). Gender and entrepreneurial self-efficacy: A learning perspective. *International Journal of Gender and Entrepreneurship*, 6(1), 28-49. <https://doi.org/10.1108/IJGE-02-2013-0013>
- Díaz-García, M.C., & Jiménez-Moreno, J. (2010). Entrepreneurial intention: The role of gender. *International Entrepreneurship and Management Journal*, 6(3), 261-283. <https://doi.org/10.1007/s11365-008-0103-2>
- Dwyer, L.P. (2019). Leadership self-efficacy: Review and leader development implications. *Journal of Management Development*, 38(8), 637-650. <https://doi.org/10.1108/JMD-03-2019-0073>
- Edwards-Schachter, M., García-Granero, A., Sánchez-Barriluengo, M., Quesada-Pineda, H., & Amara, N. (2015). Disentangling competences: Interrelationships in creativity, innovation and entrepreneurship. *Thinking Skills and Creativity*, 16, 27-39. <https://doi.org/10.1016/j.tsc.2014.11.006>
- European Union. (2019). *Key competences for lifelong learning*. Publications Office of the European Union. <https://doi.org/10.2766/291008>
- Faul, F., Erdfelder, E., Lang, A.-G., & Buchner, A. (2007). G\*Power 3: A flexible statistical power analysis program for the social, behavioral, and biomedical sciences. *Behavior Research Methods*, 39(2), 175-191. <https://doi.org/10.3758/BF03193146>
- Fuller, B.B., Liu, Y., Bajaba, S., Marler, L.E., & Pratt, J. (2018). Examining how the personality, self-efficacy, and anticipatory cognitions of potential entrepreneurs shape their entrepreneurial intentions. *Personality and Individual Differences*, 125, 120-125. <https://doi.org/10.1016/j.paid.2018.01.005>
- Global Entrepreneurship Monitor (2019). 2018/19 Global Report. Retrieved from <https://www.gemconsortium.org/report> on November 20, 2022.
- Giones, F., Brem, A., Pollack, J.M., Michaelis, T.L., Klyver, K., & Brinckmann, J. (2020). Revising entrepreneurial action in response to exogenous shocks: Considering the COVID-19 pandemic. *Journal of Business Venturing Insights*, 14, e00186. <https://doi.org/10.1016/j.jbvi.2020.e00186>
- Gutman, L., & Schoon, I. (2013). *The impact of non-cognitive skills on outcomes for young people. A literature review*. Education Endowment Foundation.
- Halberstadt, J., Timm, J., Kraus, S., & Gundolf, K. (2019). Skills and knowledge management in higher education: How service learning can contribute to social entrepreneurial competence development. *Journal of Knowledge Management*, 23(10), 1925-1948. <https://doi.org/10.1108/JKM-12-2018-0744>
- Henry, C., Foss, L., & Ahl, H. (2016). Gender and entrepreneurship research: A review of methodological approaches. *International Small Business Journal*, 34(3), 217-241. <https://doi.org/10.1177/0266242614549779>
- Higgins, D., Refai, D., & Keita, D. (2018). Focus point: The need for alternative insight into the entrepreneurial education paradigm. *Journal of Small Business and Entrepreneurship*, 31(3), 225-242. <https://doi.org/10.1080/08276331.2018.1466851>
- Hmieleski, K.M., & Corbett, A.C. (2007). The contrasting interaction effects of improvisational behavior with entrepreneurial self-efficacy on new venture performance and entrepreneur work satisfaction. *Journal of Business Venturing*, 23(4), 482-496. <https://doi.org/10.1016/j.jbusvent.2007.04.002>
- Huszcz, G., & Endres, M.L. (2017). Gender differences in the importance of personality traits in predicting leadership self-efficacy. *International Journal of Training and Development*, 21(4), 304-317. <https://doi.org/10.1111/ijtd.12113>
- Ip, C.Y., Liang, C., Wu, S.C., Law, K.M.Y., & Liu, H.C. (2018). Enhancing social entrepreneurial intentions through entrepreneurial creativity: A comparative study between Taiwan and Hong Kong. *Creativity Research Journal*, 30(2), 132-142. <https://doi.org/10.1080/10400419.2018.1446744>
- Karwowski, M. (2011). It doesn't hurt to ask... but sometimes it hurts to believe: Polish students' creative self-efficacy and its predictors. *Psychology of Aesthetics, Creativity, and the Arts*, 5(2), 154-164. <https://doi.org/10.1037/a0021427>

- Karwowski, M., Lebuda, I., & Wisniewska, E. (2018). Measuring creative self-efficacy and creative personal identity. *The International Journal of Creativity and Problem Solving*, 28(1), 45-57.
- Kickul J., Wilson, F., Marlino, D., & Barbosa, S. D. (2008). Are misalignments of perceptions and self-efficacy causing gender gaps in entrepreneurial intentions among our nation's teens?. *Journal of Small Business and Enterprise Development*, 15(2), 321-335. <https://doi.org/10.1108/14626000810871709>
- Ko, S., & Butler, J.E. (2007). Creativity: A key link to entrepreneurial behavior. *Business Horizons*, 50(5), 365-372. <https://doi.org/10.1016/j.bushor.2007.03.002>
- Lanero, A., Vázquez, J.L., & Aza, C.L. (2016). Social cognitive determinants of entrepreneurial career choice in university students. *International Small Business Journal: Researching Entrepreneurship*, 34(8), 1053-1075. <https://doi.org/10.1177/0266242615612882>
- Lans, T., Blok, V., & Wesselink, R. (2014). Learning apart and together: Towards an integrated competence framework for sustainable entrepreneurship in higher education. *Journal of Cleaner Production*, 62, 37-47. <https://doi.org/10.1016/j.jclepro.2013.03.036>
- Lent, R.W., & Brown, S.D. (2019). Social cognitive career theory at 25: Empirical status of the interest, choice, and performance models. *Journal of Vocational Behavior*, 115. <https://doi.org/10.1016/j.jvb.2019.06.004>
- Mathisen, G.E., & Bronnick, K.S. (2009). Creative self-efficacy: An intervention study. *International Journal of Educational Research*, 48(1), 21-29. <https://doi.org/10.1016/j.ijer.2009.02.009>
- Mauer, R., Neergaard, H., & Linstad, A.K. (2017). Self-Efficacy: Conditioning the Entrepreneurial Mindset. In *Revisiting the Entrepreneurial Mind*, 293-317. <https://doi.org/10.1007/978-1-4419-0443-0>
- McCormick, M.J. (2001). Self-efficacy and leadership effectiveness: Applying social cognitive theory to leadership. *Journal of Leadership Studies*, 8(1), 22-33. <https://doi.org/10.1177%2F107179190100800102>
- McCormick, M.J., Tanguma, J., & López-Forment, A.S. (2002). Extending self-efficacy theory to leadership: A review and empirical test. *Journal of Leadership Education*, 1(2), 34-49. <https://doi.org/10.12806/V1/I2/TF1>
- Mueller, S.L., & Conway Dato-on, M. (2013). A cross cultural study of gender-role orientation and entrepreneurial self-efficacy. *International Entrepreneurship and Management Journal*, 9(1), 1-20. <https://doi.org/10.1007/s11365-011-0187-y>
- Mueller, S.L., & Conway Dato-On, M. (2008). Gender-role orientation as a determinant of entrepreneurial self-efficacy. *Journal of Developmental Entrepreneurship*, 13(1), 3-20. <https://doi.org/10.1142/S108494670800082X>
- Muthén, L.K., Muthén, B., & Asparouhov, T. (2016). *Regression and mediation analysis using Mplus*. Muthén and Muthén.
- Nabi, G., Walmsley, A., & Holden, R. (2015). Pushed or pulled? Exploring the factors underpinning graduate start-ups and non-start-ups. *Journal of Education and Work*, 28(5), 481-506. <https://doi.org/10.1080/13639080.2013.805189>
- Naz, S., Li, C., Zaman, U., & Rafiq, M. (2020). Linking proactive personality and entrepreneurial intentions: A serial mediation model involving broader and specific self-efficacy. *Journal of Open Innovation: Technology, Market, and Complexity*, 6(4), 1-21. <https://doi.org/10.3390/joitmc6040166>
- Newman, A., Obschonka, M., Schwarz, S., Cohen, M., & Nielsen, I. (2019). Entrepreneurial self-efficacy: A systematic review of the literature on its antecedents and outcomes, and an agenda for future research. *Journal of Vocational Behavior*, 110, 403-419. <https://doi.org/10.1016/j.jvb.2018.05.012>
- Nowiński, W., Haddoud, M.Y., Lančarič, D., Egerová, D., & Czeglédi, C. (2019). The impact of entrepreneurship education, entrepreneurial self-efficacy and gender on entrepreneurial intentions of university students in the Visegrad countries. *Studies in Higher Education*, 44(2), 361-379. <https://doi.org/10.1080/03075079.2017.1365359>
- Obschonka, M., Hakkarainen, K., Lonka, K., & Salmela-Aro, K. (2017). Entrepreneurship as a twenty-first century skill: Entrepreneurial alertness and intention in the transition to adulthood. *Small Business Economics*, 48(3), 487-501. <https://doi.org/10.1007/s11187-016-9798-6>
- Obschonka, M., Silbereisen, R.K., Schmitt-Rodermund, E., & Stuetzer, M. (2011). Nascent entrepreneurship and the developing individual: Early entrepreneurial competence in adolescence and venture creation success during the career. *Journal of Vocational Behavior*, 79(1), 121-133. <https://doi.org/10.1016/j.jvb.2010.12.005>
- OECD. (2017). *Social and emotional skills: Well-being, connectedness and success*. [http://www.oecd.org/education/school/UPDATED Social and Emotional Skills – Well-being, connectedness and success.pdf](http://www.oecd.org/education/school/UPDATED%20Social%20and%20Emotional%20Skills%20-%20Well-being,%20connectedness%20and%20success.pdf) (website).pdf

- OECD. (2019a). *The future of work. OECD Employment Outlook 2019*. <https://doi.org/10.1787/2e9fb244-nl>
- OECD. (2019b). *Transformative competencies for 2030*. [www.oecd.org/education/2030-project](http://www.oecd.org/education/2030-project)
- OECD/European Union. (2019). *The missing entrepreneurs 2019: Policies for inclusive entrepreneurship*. OECD Publishing. <https://doi.org/10.1787/9789264188167-en>
- Paglis, L.L., & Green, S.G. (2002). Leadership self-efficacy and managers' motivation for leading change. *Journal of Organizational Behavior, 23*(2), 215-235. <https://doi.org/10.1002/job.137>
- Peixoto, F., & Almeida, L.S. (2010). Self-concept, self-esteem and academic achievement: Strategies for maintaining self-esteem in students experiencing academic failure. *European Journal of Psychology of Education, 25*(2), 157-175. <https://doi.org/10.1007/s10212-010-0011-z>
- Pilegaard, M., Moroz, P.W., & Neergaard, H. (2010). An auto-ethnographic perspective on academic entrepreneurship: Implications for research in the social sciences and humanities. *Academy of Management Perspectives, 24*(1), 46-61. <https://doi.org/10.5465/amp.24.1.46>
- Rafiei, N., Yarmohammadian, M.H., & Keshtiaray, N. (2019). Defective cycle of entrepreneurship education in humanities in higher education. *Journal of Entrepreneurship Education, 22*(2), 1-16.
- Redmond, P., Gutke, H., Galligan, L., Howard, A., & Newman, T. (2017). Becoming a female leader in higher education: Investigations from a regional university. *Gender and Education, 29*(3), 332-351. <https://doi.org/10.1080/09540253.2016.1156063>
- Robbins, T.L., & Kegley, K. (2010). Playing with Thinkertoys to build creative abilities through online instruction. *Thinking Skills and Creativity, 5*(1), 40-48. <https://doi.org/10.1016/j.tsc.2009.07.001>
- Sax, L.J., & Newhouse, K.N.S. (2019). Disciplinary field specificity and variation in the STEM gender gap. *New Directions for Institutional Research, 179*, 45-71. <https://doi.org/10.1002/ir.20275>
- Schediwy, L., Loots, E., & Bhansing, P. (2018). With their feet on the ground: a quantitative study of music students' attitudes towards entrepreneurship education. *Journal of Education and Work, 31*(7-8), 611-627. <https://doi.org/10.1080/13639080.2018.1562160>
- Sheppard, L.D. (2018). Gender differences in leadership aspirations and job and life attribute preferences among U.S. undergraduate students. *Sex Roles, 79*(9-10), 565-577. <https://doi.org/10.1007/s11199-017-0890-4>
- Shin, Y., & Eom, C. (2014). Team proactivity as a linking mechanism between team creative efficacy, transformational leadership, and risk-taking norms and team creative performance. *Journal of Creative Behavior, 48*(2), 89-114. <https://doi.org/10.1002/jocb.42>
- Singer, M. (1991). The relationship between employee sex, length of service and leadership aspirations: A study from valence, self-efficacy and attribution perspectives. *Applied Psychology, 40*(4), 417-436. <https://doi.org/10.1111/j.1464-0597.1991.tb01001.x>
- Sorgner, A. (2015). Non-cognitive skills, occupational choices, and entrepreneurship: An empirical analysis of entrepreneurs' career choices. *International Journal of Entrepreneurship and Small Business, 25*(2), 208-230. <https://doi.org/10.1504/IJESB.2015.069286>
- Tantawy, M., Herbert, K., McNally, J.J., Mengel, T., Piperopoulos, P., & Foord, D. (2021). Bringing creativity back to entrepreneurship education: Creative self-efficacy, creative process engagement, and entrepreneurial intentions. *Journal of Business Venturing Insights, 15*. <https://doi.org/10.1016/j.jbvi.2021.e00239>
- Teixeira, A.A.C., & Forte, R.P. (2017). Prior education and entrepreneurial intentions: the differential impact of a wide range of fields of study. *Review of Managerial Science, 11*(2), 353-394. <https://doi.org/10.1007/s11846-015-0188-2>
- Tellhed, U., Bäckström, M., & Björklund, F. (2017). Will I fit in and do well? The importance of social belongingness and self-efficacy for explaining gender differences in interest in STEM and HEED majors. *Sex Roles, 77*(1-2), 86-96. <https://doi.org/10.1007/s11199-016-0694-y>
- Tierney, P., & Farmer, S.M. (2002). Self-efficacy: Its potential antecedents and relationship to creative performance. *Academy of Management Journal, 45*(6), 1137-1148. <https://doi.org/10.5465/3069429>
- Tsang, T.L. (2019). A quantitative analysis examining differences between US humanities and STEM students' propensity toward innovation. *Journal of Further and Higher Education, 43*(2), 149-165. <https://doi.org/10.1080/0309877X.2017.1357069>
- Vázquez-Burgete, J.L., Lanero, A., & Raisiene, A.G. (2012). Entrepreneurship education in humanities and social sciences. Are students qualified to start a business?. *Business: Theory and Practice, 13*(1), 27-35. <https://doi.org/10.3846/btp.2012.03>



- Wardana, L.W., Narmaditya, B.S., Wibowo, A., Mahendra, A.M., Wibowo, N.A., Harwida, G., & Rohman, A.N. (2020). The impact of entrepreneurship education and students' entrepreneurial mindset: The mediating role of attitude and self-efficacy. *Heliyon*, 6(9), e04922. <https://doi.org/10.1016/j.heliyon.2020.e04922>
- Wegemer, C.M., & Eccles, J.S. (2019). Gendered STEM career choices: Altruistic values, beliefs, and identity. *Journal of Vocational Behavior*, 1.110, 28-42. <https://doi.org/10.1016/j.jvb.2018.10.020>
- Wieland, A.M., Kimmelmeier, M., Gupta, V.K., & McKelvey, W. (2019). Gendered cognitions: A socio-cognitive model of how gender affects entrepreneurial preferences. *Entrepreneurship and Regional Development*, 31(3-4), 178-197. <https://doi.org/10.1080/08985626.2018.1551787>
- Wilson, F., Kickul, J., Marlino, D., Barbosa, S.D., & Griffiths, M.D. (2009). An analysis of the role of gender and self-efficacy in developing female entrepreneurial interest and behavior. *Journal of Developmental Entrepreneurship*, 14(2), 105-119. <https://doi.org/10.1142/S1084946709001247>
- Zhang, X., & Zhou, J. (2014). Empowering leadership, uncertainty avoidance, trust, and employee creativity: Interaction effects and a mediating mechanism. *Organizational Behavior and Human Decision Processes*, 124(2), 150-164. <https://doi.org/10.1016/j.obhdp.2014.02.002>
- Zhang, Z., & Arvey, R.D. (2009). Rule breaking in adolescence and entrepreneurial status: An empirical investigation. *Journal of Business Venturing*, 24(5), 436-447. <https://doi.org/10.1016/j.jbusvent.2008.04.009>
- Zhao, H., Hills, G.E., & Seibert, S.E. (2005). The mediating role of self-efficacy in the development of entrepreneurial intention. *Journal of Applied Psychology*, 90( 6), 1265-1272. <https://doi.org/10.1037/0021-9010.90.6.1265>
- Zhou, Q., Hirst, G., & Shipton, H. (2012). Promoting creativity at work: The role of problem-solving demand. *Applied Psychology*, 61(1), 56-80. <https://doi.org/10.1111/j.1464-0597.2011.00455>

### Authors


The contribution share of authors is equal.

PA-H – conceptualization, writing, AM – formal analysis, writing, IL – data curation, writing methodology

#### Paula Alvarez-Huerta

Researcher at Mondragon University. Her PhD dealt with higher education students perceptions towards innovation. Her research interests include the topics of entrepreneurial education and student identity construction in higher education.


**Correspondence to:** Dr. Alvarez-Huerta, Innovation and Intervention in Inclusive Education, Mondragon University, Dorleta, Eskoriatza, 20540, Spain. [palvarez@mondragon.edu](mailto:palvarez@mondragon.edu)

**ORCID**  <http://orcid.org/0000-0002-6179-7899>

#### Alexander Muela

Professor at the University of the Basque Country. His areas of research interest include social entrepreneurship, entrepreneurial education and organizational psychology.


**Correspondence to:** Dr. Muela, Department of Clinical and Health Psychology and Research Methodology, University of the Basque Country UPV/EHU, Tolosa Hiribidea, 70, 20018 Donostia, Spain. [alexander.muela@ehu.eus](mailto:alexander.muela@ehu.eus)

**ORCID**  <http://orcid.org/0000-0001-9854-9410>

#### Inaki Larrea

Professor at Mondragon University. He has lead different research projects related to educational quality and its impact on various educational stages. He is currently involved in a major research project aimed at the analysis of the personal and professional profiles of university students.

**Correspondence to:** Dr. Larrea, Innovation and Intervention in Inclusive Education, Mondragon University, Dorleta, Eskoriatza, 20540, Spain. [ilarrea@mondragon.edu](mailto:ilarrea@mondragon.edu)

**ORCID**  <http://orcid.org/0000-0001-8190-5001>

### Acknowledgements and Financial Disclosure

This research was supported by a grant from Gipuzkoako Foru Aldundia to the Faculty of Humanities and Education Sciences of Mondragon Unibertsitatea.

### Conflict of Interest

The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

### Copyright and License



This article is published under the terms of the Creative Commons Attribution – NoDerivs (CC BY-ND 4.0) License  
<http://creativecommons.org/licenses/by-nd/4.0/>

Published by Cracow University of Economics – Krakow, Poland



Ministry of Education and Science  
Republic of Poland

The journal is co-financed in the years 2022-2024 by the Ministry of Education and Science of the Republic of Poland in the framework of the ministerial programme "Development of Scientific Journals" (RCN) on the basis of contract no. RCN/SP/0583/2021/1 concluded on 13 October 2022 and being in force until 13 October 2024.



# Extra-industry imitation of digital platform business models

Aleksandra Hauke-Lopes, Marcin Wiczerzycki, Milena Ratajczak-Mrozek

## ABSTRACT

**Objective:** The objective of the article is to identify challenges and success factors related to the imitation of the digital platform business model in other industries.

**Research Design & Methods:** We based our research on a single case study of an extra-industry imitation performed by a digital platform operating in Poland that connects confectionery shops and final customers. The case study was based on direct interviews conducted with the co-owners of the platform.

**Findings:** The results indicated that successful extra-industry imitation faced certain challenges, including the different requirements of the new target industry and the related know-how, and attracting cooperating companies and customers. The success of an extra-industry imitation was determined by specific success factors linked mainly to prior experience regarding the digital platform business model, business relationships with technology/IT suppliers and companies from the new target industry, and personal competencies.

**Implications & Recommendations:** Formal and informal business relationships and cooperation are crucial for extra-industry digital platform business model imitation. Moreover, specific personal relational competencies, including willingness to learn and take risks, allow managers to respond successfully to market opportunities and imitate digital platform business models in new industries.

**Contribution & Value Added:** The main contribution of the article lies in assessing the challenges managers face during extra-industry business model imitation. In our model, we proposed a novel set of factors that impacts the successful implementation of the imitation business model process in a new industry.

**Article type:** research article

**Keywords:** business model; business model imitation; innovation; digital platform; business relationships

**JEL codes:** L2, O3

Received: 25 July 2022

Revised: 24 October 2022

Accepted: 17 November 2022

## Suggested citation:

Hauke-Lopes, A., Wiczerzycki, M., & Ratajczak-Mrozek, M. (2022). Extra-industry imitation of digital platform business models. *Entrepreneurial Business and Economics Review*, 10(4), 91-105. <https://doi.org/10.15678/EBER.2022.100406>

## INTRODUCTION

The emergence and proliferation of digital technologies have allowed, and sometimes even forced, existing companies to innovate new ways of conducting business (Bouwman *et al.*, 2018; Matarazzo *et al.*, 2021) by establishing increased connectivity between people, organizations, resources and across entire industries (Rohn *et al.*, 2021). This creates pressure on companies to revisit their business models – i.e. the way they operate and create value (Casadesus-Masanell & Zhu, 2013) – or even to develop entirely new ones (Baden-Fuller & Haefliger, 2013). However, with new business models such as the digital platform business model, which is emerging and rapidly gaining popularity across different industries (Şimşek *et al.*, 2022), it seems that in many cases the key to business model innovation is imitation (Casadesus-Masanell & Zhu, 2013; Frankenberger & Stam, 2020). In other words, rather than developing new digital business models from scratch, companies can utilize the existing solutions of companies from other industries as recipes or blueprints of sorts, and adjust them to the specific conditions of their field of business (Baden-Fuller & Haefliger, 2013). According to Enkel and Mezger

(2013), extra-industry imitation is based on deconstructing and aligning the elements of the current business model with their potential contribution to the new model value proposition in the new industry. Business model imitation can serve as a method of business model innovation (Baden-Fuller & Haefliger, 2013; Casadesus-Masanell & Zhu, 2013), particularly when it occurs between different industries, as in such cases the imitation is more likely to result in the development of novel, distinctive business models (Amit & Zott, 2015; Frankenberger & Stam, 2020).

The existing scarce research on business model imitation tends to focus on methods of preventing imitation, rather than utilising it for innovation and developing new ventures (Frankenberger & Stam, 2020; Shenkar, 2010). Existing research also does not provide examples of imitation which tend to benefit both the imitating and the imitated side. As Frankenberger and Stam (2020) add, 'there has been little research on whether business model imitation is a performance-enhancing strategy in its own right' (p. 101872). For such a question to be answered, the challenges and success factors specific to this form of innovation development have to be explored.

To the best of our knowledge, no studies have tackled this subject, in particular with regard to digital platforms. As a business model, digital platforms have been gaining a foothold in an ever-increasing number of industries (Täuscher & Laudien, 2018), and revolve around creating value by connecting independent actors through digital interfaces (Parker *et al.*, 2016). Their absence in the literature regarding business model imitation is surprising, as due to their digital nature, digital platforms facilitate the transfer of applied technical solutions and business models to other companies and even industries. In particular, research conducted so far has not yet tackled the subject of the challenges and success factors of extra-industry digital business model imitation, which is key if imitation is to lead to growth in new ventures.

To fill the above research gap, the article aims to identify the challenges and success factors needed for the imitation of the digital platform business model in a new industry. Our article responds to calls by Frankenberger and Stam (2020) for further investigation in terms of 'how entrepreneurs search for and evaluate pre-existing business models before deciding which elements to adopt' (p. 101872). Additionally, by identifying the challenges and success factors that managers may encounter during extra-industry digital platform business model imitation, we provide managerial recommendations for the successful implementation of digital platforms.

We based our research on the analysis of a single, exploratory case study (Eisenhardt & Graebner, 2007) of a digital platform provider that imitated its business model and adapted it from another industry that the co-owners had previous experience with. We used a qualitative approach as it allowed for an in-depth analysis of the problem under investigation (Rajala & Tidström, 2017). The data was collected through direct interviews conducted in the years 2015 and 2020-21.

We contributed to existing research on extra-industry business model innovation and imitation (Enkel & Mezger, 2013; Frankenberger & Stam, 2020; Shenkar, 2010), and responded to calls for further examination of the problem. Our main contribution lies in assessing the challenges managers face during extra-industry business model imitation. In our model, we proposed a novel set of factors that impact the successful implementation of the imitation business model process in a new industry.

The article is structured as follows. In the first section, we will discuss the subject of imitation as a method of business model innovation and relate it to the digital platform business model. Then, we will present the methodology of our study. The following section will be dedicated to the case analysis and the results of our research. Next, we will provide a detailed discussion of the results and their theoretical and practical implications. The article will end with concluding remarks.

## LITERATURE REVIEW

### Business Model Innovation

The concept of the 'business model' is an important part of business jargon and has garnered a great deal of attention from scholars in the management literature (Amit & Zott, 2015; Casadesus-Masanell & Zhu, 2013). Business models can either serve as model organisms utilised in the process of scientific

investigation or as recipes or blueprints that companies can use to experiment with, change, refine, or re-invent the way their businesses operate (Baden-Fuller & Haefliger, 2013).

Business model innovation constitutes the implementation of a business model that is new to the firm (Björkdahl & Holmén, 2013; Rachinger *et al.*, 2019), and which changes the way it creates and captures value (Berends *et al.*, 2016). Therefore, consistent with the dominant understanding of innovation derived from The Oslo Manual (OECD, 2005), such innovation does not need to introduce changes new to an entire industry or the whole world; it is sufficient for the novelty to pertain only to a particular company. That being said, it does not exclude the possibility that business model innovation entails the development of brand-new solutions that are revolutionary on a wider scale (Foss & Saebi, 2017). Moreover, just as the scale of the innovation can differ between cases, the degree of changes to a company's business model resulting from business model innovation can also vary (Rachinger *et al.*, 2019).

### **The Digital Platform as a Business Model**

Business model innovation can be tied to broader technological innovations. This relationship works in two ways. On the one hand, the choice of business model largely determines which technologies are developed, applied, and monetised by the company, and how it is done. On the other hand, technological innovations themselves determine and outline the possible directions for business model innovation (Baden-Fuller & Haefliger, 2013) leading to the optimisation or transformation of existing business models and sometimes to the emergence of entirely new ones (Loebbecke & Picot, 2015). A prominent example of the latter is the digital platform business model enabled by digital technologies (Şimşek *et al.*, 2022; Täuscher & Laudien, 2018).

Digital platforms rely on digital technologies to connect independent actors (people, organisations and resources) to provide consumers with access to products and services (Bartosik-Purgat, 2019; Parker *et al.*, 2016), giving rise to constantly evolving business ecosystems (Teece, 1997). Whereas traditional businesses achieve competitive advantage through control over scarce, valuable, inimitable, and organisation-specific resources, in the digital platform business model, a company does not require direct control over such assets, instead facilitating transactions through its network of actors, the interactions between them, and the exchange of information (Rohn *et al.*, 2021). The value emerges from different resources – those owned by the company, and those shared, or from outside the ecosystem – coming together in various combinations (Liu, 2017; Yablonsky, 2018).

### **Digital Platform Business Model Imitation**

One way of conceptualising business models is to treat them as recipes that companies can use to develop their businesses – either by implementing some aspects of a given model or incorporating it in its entirety (Baden-Fuller & Haefliger, 2013). As such, the existing business models of one company can be imitated by other organisations – either from the same industry or a completely different one. Thus understood business model imitation can serve as a valid method of business model innovation (Baden-Fuller & Haefliger, 2013; Casadesus-Masanell & Zhu, 2013; Frankenberger & Stam, 2020). In the case of extra-industry imitation, the imitating company does not have to face the additional challenge of differentiating itself from the competitor it is imitating (Frankenberger & Stam, 2020), whereas intra-industry business model imitation can make it hard for a company to achieve a clearly-defined competitive advantage (Frankenberger & Stam, 2020; Porter, 1991).

Despite the above, as noted by Frankenberger and Stam (2020), existing research on business model imitation tends to focus on methods of preventing imitation (Pisano & Teece, 2007), rather than utilising it to innovate and develop businesses. To remedy this, they proposed and tested a theoretical model of extra-industry business model imitation, which posits that business model imitation leads to business growth if two conditions are met: 1) the imitating company utilises novel technologies, and 2) its founders possess some degree of experience in the (new) industry, which allows them to adjust the business model to its unique growth opportunities.

A digital platform as a business model may prove somewhat unique in terms of imitation. As stated by Frankenberger and Stam (2020): 'to understand when business model imitation increases venture growth, we need to consider how new ventures combine replicated business models with other re-

sources and capabilities' (p. 101872). This can potentially be less challenging in the case of digital platforms, as these do not have to rely exclusively on their resources, but rather facilitate transactions between distinct actors that provide resources of their own. This in turn creates a competitive advantage that is hard to imitate (Rohn *et al.*, 2021). At the same time, digital platforms themselves rely on fairly uniform and standardised technology, such as mobile payment solutions (which themselves are often provided through other digital platforms), which in turn can make it easier to 'follow the recipe' while establishing the architecture of the new digital platform (Pil & Cohen, 2006; Tiwana *et al.*, 2010). This potentially limits the importance of technological innovativeness during the imitation process of the digital platform business model. Last but not least, the advantage of business model imitation partially stems from stakeholders potentially already being familiar with and understanding business models that already exist in other industries (Frankenberger & Stam, 2020). This is particularly relevant concerning digital platforms due to their presence in various industries (Täuscher & Laudien, 2018) making it substantially easier for potential business partners or consumers to understand this business model and accept it within the context of a new industry. Conversely, due to the uniqueness of the digital platform as a business model in terms of its reliance on independent actors and their resources, the disruptiveness of the adoption of such a business model can be fairly high. The need to switch from managing one's resources to orchestrating inputs from different actors may require a different set of competencies from managers and employees, thus, making the process potentially more challenging for the company.

### RESEARCH METHODOLOGY

We based our analysis on an exploratory case study (Rajala & Tidström, 2017), which is advised for the analysis of phenomena that previous research provides little or no knowledge on. We used a case study as it allowed for an in-depth investigation of the problem and observation of the holistic (*e.g.* single-unit) phenomena in detail (Dubois & Gadde, 2014) and provided an understanding of processes that are embedded in a specific context (Ratajczak-Mrozek *et al.*, 2018). Case studies are especially recommended for industrial marketing research (Easton, 1998) as they allow the researcher to investigate the in-depth, complex, and constantly changing interactions that take place in business relationships during cooperation (Dubois & Gadde, 2014). This is enabled by comparing, using, and adopting different data or insights on the issues investigated (Kamalaldin *et al.*, 2020), as well as by using 'the unique advantage of getting insight into the internal logic of a group, organization or culture' (Ciechanowski *et al.*, 2020, p. 323). The case selection was purposeful as we wanted to investigate the extra-industry imitation of a digital platform business model. We analysed Alpha digital platform provider set up by managers who used to work for Omega digital platform provider but in a different industry.

The data for the case study came from six semi-structured interviews. The first interview was conducted in 2015 with the CEO of Omega platform. The interviewed CEO set up a new platform in 2015 already after conducting the first interview. We decided to investigate the process of business model imitation in 2020. The time gap allowed us to grasp and assess the whole process of business model imitation, including the decision, the initial phase of developing and the later phase of running the platform. As a result, in the years 2020-2021, we conducted five more interviews with two co-owners of the analysed digital platform (one being the former CEO of Omega platform). We stopped the interviews when we reached data saturation, meaning that additional interviews would not bring any new information to our study. As we wanted to determine the challenges and success factors that are needed to imitate the digital platform business model in a new industry, we focused our questions on the specifics of the particular digital platform and its business model, as well as elements of the platform and business model that were imitated and/or newly developed by the Alpha co-owners when setting up the new venture.

The interviews were conducted personally (face-to-face) or via an internet communicator (for details see Table 1). All the interviews were conducted by at least two members of the research team. The interviews were recorded, transcribed, and used as the basis for further analysis. To decrease subjectivity, the transcripts were read separately by each researcher and then discussed. Additionally, we applied data triangulation (Kamalaldin *et al.*, 2020) by using an array of different sources of information, including the interviews themselves, external data (*e.g.* information from company profiles)

and internal data (financial statements of the analysed company, internal instructions and a network picture prepared by the co-owner of one of the analysed companies).

**Table 1. Overview of interview details**

Company name	Position of interviewee	Method of interview	Interview time	Year
Omega digital platform	CEO (now co-owner 1 in Alpha)	personal (on-site)	2 hrs. 10 mins	2015
Alpha digital platform	Co-owner 1	personal (on-site)	1hr 30 mins	2020
	Co-owner 1	Skype	1hr 50 mins	2020
	Co-owner 1	Skype	1hr 20 mins	2020
	Co-owner 2	Skype	2 hrs.	2020
	Co-owner 2	Skype	33 mins	2020
	Co-owner 1	Skype	1hr 40 mins	2021

Source: own study.

As part of the analysis, we coded the transcripts based on common words, phrases and terms used in the interviews (Kamalaldin *et al.*, 2020). Initially, we coded the challenges mentioned during the process of digital platform business model imitation, as well as the elements of the Frankenberg and Stam (2020) model of extra-industry business model imitation needed for business growth, that is (1) utilisation of novel technologies by the imitating company and 2) founders' experience in the new industry. However, we then conducted a second round of coding as we identified success factors of extra-industry digital platform business model imitation that were not mentioned in the Frankenberg and Stam (2020) model (Table 2).

## RESULTS AND DISCUSSION

The unit of analysis was Alpha, a digital platform from Poland that is an intermediary between confectionery shops and end customers. Via the platform, customers may order a cake (from a standardised offer) and add personalised elements (such as a candle or an inscription on the cake). After payment, the order is sent to the nearest (in terms of place of delivery), formally independent confectionery shop. After two days in most cases, the cake is delivered in boxes labelled with Alpha logo to the order destination.

The Alpha platform was set up in 2015 by two co-workers: a former CEO and former Omega's manager. Omega is the Polish branch of a Swedish digital platform offering flower delivery. Platform customers choose a bouquet from a standardised offer and customise it with personal dedication. When payment is confirmed, the order goes to the nearest (in terms of place of delivery) formally independent flower shop. The order is realised within two hours (if it is placed before 5 p.m.). The letter cards attached to the delivered bouquets and any additional documents are labelled with the Omega logo. It took Omega some time to convince customers to order bouquets on the internet. The same was true for convincing the owners of flower shops, but as the Omega CEO at that time (and now co-owner 1 of Alpha) underlined, 'florists also see that the phone is already a channel that is dying out.' Moreover, digital solutions offer reliability, as an order that is put into the system provided by the digital platform provider is always there, and authorised employees have access to it at any time. On the technical side, the digital platform business model included solutions connected to accepting orders from customers, distributing orders to florists, providing the method of payment and issuing collective invoices for florists. On the florists' side, using the platform is highly intuitive and there is no need to have a good knowledge of IT solutions.



**Table 2. List of codes used for the analysis**

1st circle codes (from Frankenberger & Stam, 2020)	2nd circle codes	3rd circle codes
<b>The utilisation of novel technologies by the imitating company</b>	Relationships with previous technology/IT suppliers when imitating platform business model	<b>Business relationships with technology/ IT suppliers</b>
	Similar technologies ( <i>e.g.</i> , programming language, IT processes) applied in the imitated and imitating business model	
	Personal relationships with previous IT suppliers	
<b>Founders' experience in the new industry</b>	The utilisation of similar technology in the imitated and imitating business model	<b>Prior experience regarding digital platform business model</b>
	Self-confidence due to the experience gained in imitated digital platform	
	Fundamental similarities between the foundations of both business models (reliance on emotions and symbolism)	
	Experience with overcoming cooperating partners' resilience during the digitisation of a traditional business model	
	Experience with overcoming end customer's resilience to buy online traditional products	
–	Learning from the companies from the new target industry	<b>Business relationships with companies from the new target industry</b>
	Knowledge sharing with business partners on market trends and business solutions	
	Cooperative approach towards conflict resolution and day-to-day operations	
–	Assistance in case of unexpected problems, also outside of the usual working hours	<b>Personal competencies</b>
	Ability to develop business relationships with limited face-to-face contact	
	Ability to resolve tensions and day-to-day problems	
–	Differences in the production cycle and standards of production (impossibility of on-demand production and delivery)	<b>Different requirements of the new target industry</b>
	Differences in the product durability/freshness	
–	Unwillingness towards learning about a new industry	<b>Difficulty in acquiring knowledge</b>
	Lack of business partners willing to share their know-how	
–	Lack of direct contact – reliance on trust	<b>Sourcing of cooperating companies</b>
	The reluctance of business partners towards new distribution channels	
–	Interacting with customers via digital challenges (need for a change in business partner's behaviours)	<b>Difficulty in acquiring customers</b>
	Final customers' reluctance towards buying certain types of products online	

Source: own study.

The idea of offering cakes as an alternative to bouquets via a digital platform came to the Alpha co-owners spontaneously, when they saw no suitable offer for men on the Omega digital platform. Additionally, it was an opportunity to expand the offer as 'even if you deliver the most beautiful bouquet to your mother on Mother's Day, after some time, year after year, it ceases to be such a big surprise' (Alpha co-owner 2). The first orders of cakes were done via the Omega platform for Father's Day. The response exceeded expectations. The promising cake sales results via the Omega flower delivery digital platform, and previous experience with the digital platform was crucial element that pushed the Alpha co-owners to set up a new business. As co-owner 2 admitted, '[working at Omega]

gave me a lot of confidence and that's why I was sure it was doable,' and co-owner 1 added, 'we had experience and know-how in a specific business model, which allowed us to launch the project quickly.'

Not long afterwards, the Alpha co-owners decided to imitate the Omega business model. This was well accepted within Omega. Selling cakes (from the Alpha platform) on the Omega platform was seen as an opportunity to expand the Omega offer. For Alpha, the possibility of offering cakes on the Omega platform was seen as a new distribution channel. However, each platform wants to develop its main products (flowers or cakes) as their core offer, as 'the strength of our companies is in the specialization. We want to be specialists in baking, they want to be specialists in flowers' (co-owner 2). As co-owner 2 further explains, both platforms cooperate only to the extent that they consider effective and financially efficient, but they 'do not get in each other's way.'

From the technical point of view, the experience and know-how that the Alpha co-owners had from the Omega digital platform allowed them to effectively create a new digital platform in a very short time, as well as take effective action when promoting it on the internet. As co-owner 2 stressed, 'the basic barrier for people who have an idea is how I will set up a website, who will do it, how much it will cost me, what payments should I expect, how should I promote it, via which channels, whether to hit Google Ads or organically promote the website... We already had answers to all these questions.' The imitation of the digital platform business model involved technical solutions connected to accepting orders, distributing orders, providing the method of payment and issuing collective invoices.

The business relationship and cooperation between the IT supplier (named Beta in the case study) and the Alpha co-owners was valuable in the business model imitation. The same Beta IT supplier provided services for the Omega digital platform and Alpha wanted to use similar internet solutions to the ones employed by Omega. The well-functioning cooperation framework that already existed (stemming from the cooperation history in Omega) allowed for time-saving when discussing problems or new solutions ('if we say one word, one sentence, one phrase, this person (Beta) will know exactly what we want' co-owner 2). As underlined by both co-owners, some adaptations to the system were induced by its use in a new industry, including different products, prices or new partner confectionery shops. To manage the process of ordering cakes, co-owner 1 along with Beta created an IT system which allowed confectionery shops to see the status of an end customer's order, whether it is accepted, processed, sent to the confectionery or already realised.

Both Alpha co-owners stated that it was not only the digital or technical core of the business model – offering products via a digital platform – that remained the same between their two companies. First of all, the similarity between the business models lies in the fact that both industries are characterised by high seasonality, as bouquets and flowers are popular gifts for occasions such as Mother's Day. Secondly, both Omega and Alpha rely to a great extent upon trust in partner flower shops and confectioneries, as the providers of the digital platform do not see the end products delivered via the platform. Therefore, the ability to maintain informal relationships and personal contact was important in both business models. According to co-owner 1, the personal relationships between the platform and confectionery shop employees were more important than formal rules of cooperation. Despite the advanced digitalisation, there is always a person to talk to via telephone in case of emergencies or when there is a need to conduct negotiations. As Omega CEO added, 'technology is technology, but somewhere behind it there is a human factor. I have a lot of friends and acquaintances among the florists, and they always emphasize that it [the possibility of personal contact] was the biggest advantage.' Finally, as sending both bouquets and cakes is linked with emotions and special feelings, Alpha is responding to the same customer needs and core values as Omega. As Alpha co-owner 1 underlined: 'Buying cakes or bouquets is not only about buying the product itself, but rather to express gratitude, appreciate someone, make the other person smile or to thank business partners.' Based on the imitated technical solutions of the digital platform, as well as other elements of the business model, it seemed that the exact imitation by Alpha of the Omega digital platform business model was possible.

Although the sale of flowers and cakes seems very similar, there are differences between the two industries that have made the analysed extra-industry digital platform business model imitation challenging. As co-owner 1 stated: 'It turned out along the way that it is not so easy, that it is definitely easier with flowers than with such a physical product as a cake or any pastries at all.' The major challenge Alpha

faced was the production cycle, which was different in the Alpha and Omega business models. Flowers are long-lasting as they may stand for a few days in water without losing their charm. Moreover, a bouquet can be prepared very quickly. In contrast to the flower business, where a bouquet may be prepared with slightly different flowers, changing the fruit in a specific cake or its flavour is not usually possible without other people noticing it, as customers most often buy a specific type of cake. Additionally, many recipes require time (*e.g.* soaking a sponge cake overnight). When they started the digital platform, the co-owners of Alpha were not aware that in some cases it takes much more time to complete an order, especially if a customer asks for an artistic cake with decorations that are hand-made and on-demand, from fresh ingredients, and therefore may not be stored too long in advance. Hygienic conditions are also important. As opposed to flowers, preparing cakes requires maintaining high standards of hygiene. As the Alpha co-owners were not initially aware of all the challenging requirements that prevented the possibility of fast delivery of the product after an order (which was possible in the case of flowers), they initially started cooperation with a local confectionery shop. The owner of this confectionery shop taught the co-owners all the processes involved in the professional production of cakes.

Another important initial challenge when establishing the Alpha platform was to find confectionery shops that wanted to enter into cooperation. When choosing the confectionery shops, the co-owners looked for those with more than one premises (this meant that they had transport options), suitable production capabilities (which could respond to demand at peak times, *e.g.* Father's Day), and the necessary skills for preparing the cakes. For the vast majority of confectionery shops, selling their products on the internet was a novelty. Therefore, they were reluctant to join this new sales channel but as co-owner 1 explained, 'when we started to send orders [to the confectionery shops] and at the same time intensively educate the confectionery shops, it turned out that they would gladly accept the orders.'

An additional challenge was to create a strong brand and find customers who want to buy cakes from the digital platform. Alpha needed to ensure traffic on the platform using different digital promotion tools. The Alpha co-owners placed more attention on digital marketing than they had previously done at Omega. As co-owner 1 added: 'Because consumers are now digitally very advanced, every brand that is a B2C brand must have very well-developed digital channels.' Alpha promotes the brand actively on social media and they also use Google Ads, newsletters, and cold mailing. Obtaining customers was even more difficult as cakes are highly customised in terms of preferred taste and filling, and some customers expect direct personal contact and advice when placing an order. For this reason, Alpha opened a helpline to assist end customers in their choices. The financial cost/benefit relationship is not profitable for Alpha, however, as co-owner 2 stated, these customers become very loyal to the company.

Additional challenges that the company faced were connected with order completion. Customers who were accustomed to the swift delivery of items purchased online expected the same from the confectionery shops. The challenge was to reconcile these two sides of the platform – internet-empowered customers and confectionery shops with their traditional baking processes.

Our research confirmed that business model imitation may be a source of innovation and growth in new ventures (Casadesus-Masanell & Zhu, 2013; Frankenberger & Stam, 2020). We showed that this was especially true in the case of a digital platform business model as it is easier to imitate.

The Alpha platform imitated many elements of the digital platform business model already used on the Omega platform. These were mainly standardized and broadly used solutions, such as mobile payments, product presentation and order processing, but also included the company's core value ('selling emotions') and the informal approach towards relationships with partner companies.

Imitation mainly embraces operational activities such as cooperation standards within the platform, order processing, elements linked with fees, etc. However, the imitation of activities does not entail copying them directly. Some activities require varying degrees of adjustment due to the differences between the respective industries (such as the time sensitivity of the products). This is one of the main limitations of business model imitation as a method for innovation.

The analysis of success factors allowed us to reveal the specific challenges faced by companies undertaking extra-industry digital platform business model imitation. First of all, when approaching a new industry, a good knowledge of its specificity and both production and delivery processes is needed. Although industry knowledge is not a hard and fast requirement for initiating new market

entry, it can instead be developed during the entry process itself, as long as managers display the willingness to learn from their mistakes. Secondly, when conducting extra-industry business model imitation, one of the main challenges is to source business partners (in the case of Alpha: confectioneries) and attract the customers themselves. While in more innovative industries, similar innovation would most likely be met with understanding, if not enthusiasm, in more traditional industries, as our case study shows, potential partners might require not only convincing but also educating. Word-of-mouth and the diffusion of information may be instrumental in overcoming this challenge. In our case, confectioneries that saw their competitors successfully cooperating with Alpha and thus reaching new customers treated this as a proof-of-concept and requested to join Alpha's platform.

Similar challenges pertain to customers. While in some industries, such as digital goods and services or those that deal with relatively simple and cheap physical products, a digital platform business model can be seen as suitable or even preferable to the more traditional way of carrying out business operations, the same solution applied to a more traditionally-oriented industry can encounter customer resistance. On the one hand, in industries where abiding by traditional methods of production can be perceived by customers as synonymous with high quality or even prestige, the adoption of innovative business models such as digital platforms may undermine or be downright incompatible with the carefully cultivated brand or company image, thus potentially decreasing a company's existing competitive advantage (Matarazzo *et al.*, 2021). On the other hand, an important barrier that limits the customers' willingness to make their purchases via a digital platform or on the internet in general is the limited ability to examine products beforehand. While this factor is less important for cheap products, or those where seeing a photo is sufficient for making a decision, for products where factors that cannot be conveyed through visuals alone are important (such as a taste for cakes or fit for clothes), this creates a significant barrier. While some industries, such as the clothing industry, can counteract this with extensive return policies designed to convince customers that purchasing via a digital platform is safe, for others, such as the confectionery industry, similar solutions are not available due to the customizable and fast-spoiling nature of the product itself. This can potentially limit the degree to which customers will accept companies that utilise this particular business model.

Innovation through imitating business models such as digital platforms and incorporating them into traditional industries also creates another problem concerning customers. As stated in the literature review, an advantage of business model imitation is the fact that customers are likely to already be accustomed to this particular way of carrying out business transactions, and thus potentially more accepting of the innovation (Frankenberger & Stam, 2020). However, our case study shows that this can potentially be a disadvantage in certain situations. While it is true that customers are already familiar with ordering products or services via digital platforms in other industries, which made it easier for them to understand and accept their application in the confectionery industry, this simultaneously has led to some unrealistic expectations and misconceptions about the nature of the service. Many digital platforms (including the one owned by Omega) can boast very fast order processing and realisation times. Customers become accustomed to this convenience and grow to expect this level of service from all digital platforms, fuelling the so-called on-demand culture (Epps *et al.*, 2009). While such effectiveness concerning order processing is relatively easy to achieve when dealing with digital goods and services, and distributing goods that have already been manufactured, or goods that can be assembled quickly on the spot (as was the case with Omega's flower bouquets), for more traditional industries such as confectioneries, it remains unfeasible. This placed a burden on the platform owners in terms of educating customers and partner confectioneries alike, as the particularities of the cake production process needed to be explained to them to temper their expectations with regard to the delivery time and to avoid potential conflicts. Therefore, customers' familiarity with the business model, while it may be beneficial in some regards, can also very well become a source of additional challenges if innovations are based on imitation of solutions from different business industries.

Our research identified success factors that facilitate the process of digital platform business model imitation. First of all, contrary to Frankenberger and Stam (2020), our results showed that the industry experience of the founders is not necessarily required for the successful imitation of the platform business model. In our case, the co-owners did not know the industry. To fill this gap, they gradually learned

how to prepare cakes, as well as the particularities of their production. However, after initial setbacks, Alpha managed to adjust its operations to the specific characteristics and quirks of the confectionery industry and close the experience gap. The initial lack of industry experience can, at least in some cases, be compensated by a willingness to self-develop and engage in the lengthy learning process. Our results also point to an important factor that influences the outcome of business model imitations based on digital platforms, namely business model experience. Contrary to the Frankenberger and Stam (2020) model, in which the imitating company required experience in the industry it is operating in to successfully implement an innovative business model it lacks experience with, in our case the situation was reversed: existing experience with the imitated business model was used to facilitate the transition to a new industry that the company itself did not have experience with. This suggests that while experience is an important factor influencing the outcome of the business model imitation process, this experience does not necessarily have to be tied to the industry.

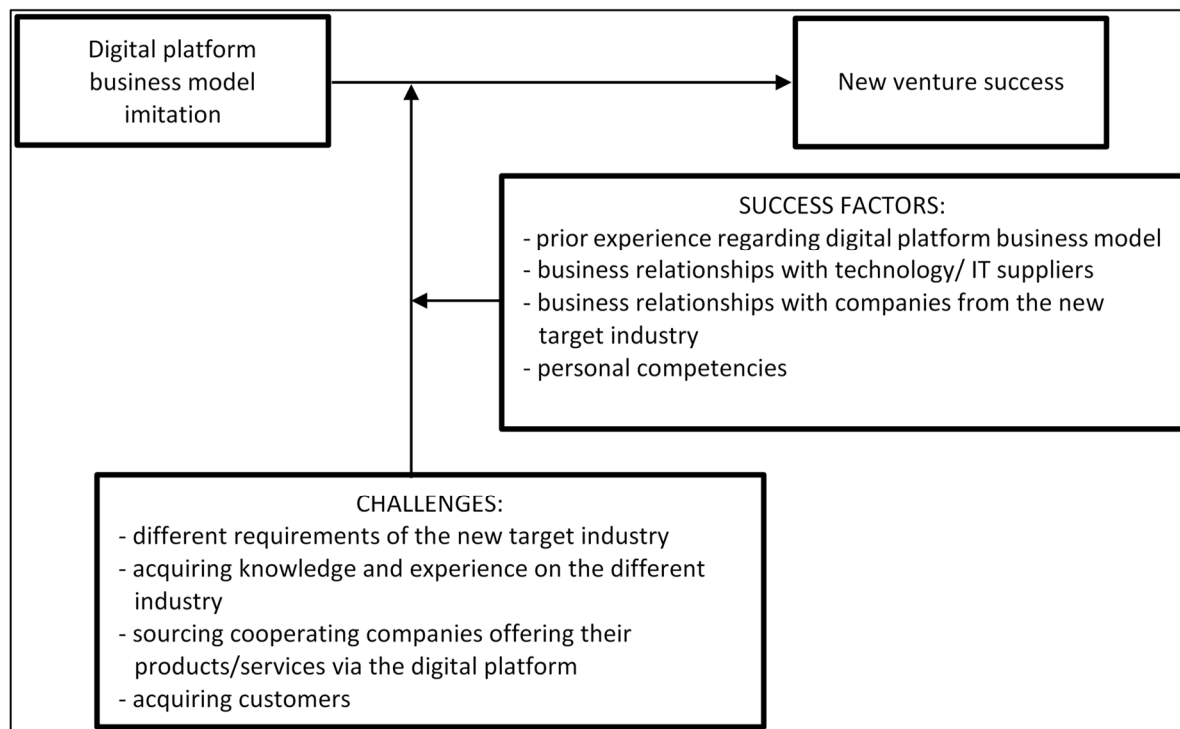
Moreover, our research did not confirm that the imitating company has to use novel technology to be successful in the imitation of the platform business model (Frankenberger & Stam, 2020). As already stated, Alpha's success was partly founded on the continuation of the relationship with the Beta IT company, using the same technology as they used at Omega. That being said, this technology, while relatively widespread in other industries, was nevertheless a novelty in the confectionery industry. Relying on Beta's resources allowed Alpha to quickly start and expand the platform.

Another factor which surfaced in our case as potentially important for business model imitation based on a digital platform was the presence of already established business relationships. If we follow Baden-Fuller and Morgan's (2013) metaphor of the business model as a recipe, then the business relationships that the Alpha co-owners carried over from their time working at Omega can be viewed as acquired thanks to the help of the original cooks who came up with the recipe in the first place and thus know how to successfully follow its every step. This can be beneficial in two major ways. Firstly, such partners can be an additional source of experience with the inner workings of the imitated business model. Secondly, since not every company is capable of developing all the technology required for the adoption of the innovative business model, such relationships can be a way of accessing these technologies and associated competencies indirectly. This concerns relationships both with partners from the target industry as well as relationships with technology/IT suppliers. This confirms that the platform's competitive advantage is determined by resources that the platform may not directly possess but has access to through its co-operators (Rohn *et al.*, 2021).

All the above-mentioned elements are closely linked with managers' competencies. These embrace both digital competencies in managing a digital platform, as well as relational competencies for starting and/or developing relationships with companies cooperating with the platform (Ratajczak-Mrozek *et al.*, 2021). As far as relational competencies are concerned, the willingness to learn and self-develop is also important, including regarding the way the new industry functions. One also has to underline the importance of the informal approach towards cooperation as dedicating time to the education of cooperating companies as well as building trust in the relationships cannot be overestimated.

Based on our analysis we propose a conceptual model presented in Figure 1.

In the literature, business model imitation is seen as a negative phenomenon that threatens the imitated company (Frankenberger & Stam, 2020; Shenkar, 2010). Our case study showed that under specific conditions, including the mutual agreement of both platforms' owners and industry specialization, extra-industry imitation may lead to the growth and success of both the imitating new venture and the imitated company. Extra-industry imitation was successful for both platforms; Omega expanded its potential market (by offering cakes on its platform) and Alpha could develop its platform with the experience acquired at Omega. Nevertheless, both platforms remained focused on their industry and core competencies, allowing them to maintain leadership in their respective industries.



**Figure 1. A model of successful implementation of the extra-industry business model imitation**

Source: own elaboration.

## CONCLUSIONS

Our research showed that extra-industry business model imitation may be successful if managers possess prior experience with a specific digital platform business model, as well as having prior business relationships with crucial partners (in terms of the new business model) or developing these relationships at the beginning of the imitation process. These business relationships provide the missing knowledge on the industry. Additionally, specific personal competencies such as willingness to learn and self-develop, trust building, readiness to take risks, mitigate challenges and allow the same business model to be successfully imitated in the new industry. Our results, contrary to Frankenberger and Stam (2020), showed that successful extra-industry business model imitation does not require knowledge of the new industry or novel technology. Therefore, our research set a basis for further investigation of digital platform extra-industry business model imitation and the challenges that may be faced during this process. We find this issue to be of great relevance as we are observing a continual emergence of digital platform business models in different industries. As some of these industries share similarities (such as reliance on emotional value in our case), business model imitation can be a way for businesses to learn from others and thus increase their chance of success.

The results of our research are also of practical importance. Firstly, business relationships and cooperation are crucial for extra-industry digital platform business model imitation. Importantly, these relationships should not only be based on formal agreements but managers should also dedicate time to developing more informal contacts with business partners. Only in such a situation will there be enough trust for the sharing of tacit knowledge. Secondly, managers should maintain and utilise the business relationships that have been already developed for the imitated business model. These relationships will empower them in the further development of the imitating business model. Thirdly, the development of specific personal relational competencies is important. These include a willingness to learn and take risks. Thanks to this personal trait, along with know-how of the existing digital platform business model, managers may respond successfully to market opportunities and imitate digital platform business models in new industries.

Our research is not free of limitations, however, it outlines directions for further research. First of all, the analysis is based on a case study with no hypotheses being tested and is limited to a specific company, time and location, which in our case is Poland, which does not allow to draw generalizations. Further research conducted in a different setting could identify additional factors for successful business model imitation. Therefore, future research should focus on other industries (e.g. medical) or other countries to investigate whether the extra-industry imitation challenge and success factors differ from the ones indicated in our research. Moreover, we call for quantitative research to analyse the specifics of extra-industry business model imitation to test our model and measure the impact of the success factors and challenges that we identified on the success of new business ventures. This would allow more general results to be obtained and would set a new direction for further research into extra-industry business model imitation.

## REFERENCES

- Amit, R., & Zott, C. (2015). Crafting Business Architecture: the Antecedents of Business Model Design. *Strategic Entrepreneurship Journal*, 9(4), 331-350. <https://doi.org/10.1002/sej.1200>
- Baden-Fuller, C., & Haefliger, S. (2013). Business Models and Technological Innovation. *Long Range Planning*, 46(6), 419-426. <https://doi.org/10.1016/j.lrp.2013.08.023>
- Baden-Fuller, C., & Morgan, M.S. (2010). Business models as models. *Long Range Planning*, 43(2-3), 156-171. <https://doi.org/10.1016/j.lrp.2010.02.005>
- Bartosik-Purgat, M. (2019). Digital marketing communication from the perspective of individual consumers: A cross-country comparison. *Entrepreneurial Business and Economics Review*, 7(3), 205-220. <https://doi.org/10.15678/EBER.2019.070311>
- Berends, H., Smits, A., Reymen, I., & Podoyntsyna, K. (2016). Learning while (re)configuring: Business model innovation processes in established firms. *Strategic Organization*, 14(3), 181-219. <https://doi.org/10.1177/1476127016632758>
- Björkdahl, J., & Holmén, M. (2013). Editorial: Business model innovation-the challenges ahead. *International Journal of Product Development*, 18(3-4), 213-225.
- Bouwman, H., Nikou, S., Molina-Castillo, F.J., & de Reuver, M. (2018). The impact of digitalization on business models. *Digital Policy, Regulation and Governance*, 20(2), 105-124. <https://doi.org/10.1108/DPRG-07-2017-0039>
- Casadesus-Masanell, R., & Ricart, J.E. (2010). From strategy to business models and onto tactics. *Long Range Planning*, 43(2-3), 195-215. <https://doi.org/10.1016/j.lrp.2010.01.004>
- Casadesus-Masanell, R., & Zhu, F. (2013). Business model innovation and competitive imitation: The case of sponsor-based business models. *Strategic Management Journal*, 34(4), 464-482. <https://doi.org/10.1002/SMJ.2022/FORMAT/PDF>
- Chen, J., Wang, L., & Qu, G. (2020). Explicating the business model from a knowledge-based view: nature, structure, imitability and competitive advantage erosion. *Journal of Knowledge Management*, 25(1), 101108. <https://doi.org/10.1108/JKM-02-2020-0159>
- Chesbrough, H., & Rosenbloom, R.S. (2002). The role of the business model in capturing value from innovation: Evidence from Xerox Corporation's technology spin-off companies. *Industrial and Corporate Change*, 11(3), 529-555. <https://doi.org/10.1093/icc/11.3.529>
- Ciechanowski, L., Jemielniak, D., & Gloor, P.A. (2020). TUTORIAL: AI research without coding: The art of fighting without fighting: Data science for qualitative researchers. *Journal of Business Research*, 117, 322-330. <https://doi.org/10.1016/j.jbusres.2020.06.012>
- De Reuver, M., Sørensen, C., & Basole, R.C. (2018). The digital platform: A research agenda. *Journal of Information Technology*, 33(2), 124-135. <https://doi.org/10.1057/s41265-016-0033-3>
- Dubois, A., & Gadde, L.-E. (2014). Systematic combining—A decade later. *Journal of Business Research*, 67(6), 1277-1284. <https://doi.org/10.1016/j.jbusres.2013.03.036>
- Dymitrowski, A., & Mielcarek, P. (2021). Business model innovation based on new technologies and its influence on a company's competitive advantage. *Journal of Theoretical and Applied Electronic Commerce Research*, 16(6), 2110-2128. <https://doi.org/10.3390/jtaer16060118>

- Easton, G. (1998). Case Research as a Methodology for Industrial Network: A Realist Approach. In P. Naudé & P. W. Turnbull (Eds.), *Network Dynamics in Marketing* (pp. 73-87). Pergamon Press.
- Eisenhardt, K.M. (1989). Building Theories from Case Study Research. In *Source: The Academy of Management Review*, 14(4), 532-550. <https://doi.org/10.2307/258557>
- Enkel, E., & Mezger, F. (2013). Imitation processes and their application for business model innovation: An explorative study. *International Journal of Innovation Management*, 17(1), 1340005. <https://doi.org/10.1142/S1363919613400057>
- Epps, A., Govers, R., & Go, F.M. (2009). A history of internet purchasing: Suggestions for web/based entrepreneurs and SMEs. *Journal of Research in Marketing and Entrepreneurship*, 10(1), 4-18. <https://doi.org/10.1108/01443571010996208>
- Foss, N.J., & Saebi, T. (2017). Fifteen Years of Research on Business Model Innovation: How Far Have We Come, and Where Should We Go?. *Journal of Management*, 43(1), 200-227. <https://doi.org/10.1177/0149206316675927>
- Frankenberger, K., & Stam, W. (2020). Entrepreneurial copycats: A resource orchestration perspective on the link between extra-industry business model imitation and new venture growth. *Long Range Planning*, 53(4), 101872. <https://doi.org/10.1016/j.lrp.2019.02.005>
- Hacklin, F., Björkdahl, J., & Wallin, M.W. (2018). Strategies for business model innovation: How firms reel in migrating value. *Long Range Planning*, 51(1), 82-110. <https://doi.org/10.1016/j.lrp.2017.06.009>
- Kallinikos, J., Aaltonen, A., & Marton, A. (2013). The ambivalent ontology of digital artifacts. *MIS Quarterly: Management Information Systems*, 37(2), <https://doi.org/10.25300/MISQ/2013/37.2.02>
- Kamalaldin, A., Linde, L., Sjödin, D., & Parida, V. (2020). Transforming provider-customer relationships in digital servitization: A relational view on digitalization. *Industrial Marketing Management*, 89, 306-325. <https://doi.org/10.1016/j.indmarman.2020.02.004>
- Kazan, E., Tan, C.W., & Lim, E.T.K. (2016). Towards a framework of digital platform competition: A comparative study of monopolistic & federated mobile payment platforms. *Journal of Theoretical and Applied Electronic Commerce Research*, 11(3), 50-64. <https://doi.org/10.4067/S0718-18762016000300005>
- Liu, C. (2017). International competitiveness and the fourth industrial revolution. *Entrepreneurial Business and Economics Review*, 5(4), 111-133. <https://doi.org/10.15678/EBER.2017.050405>
- Loebbecke, C., & Picot, A. (2015). Reflections on societal and business model transformation arising from digitization and big data analytics: A research agenda. *Journal of Strategic Information Systems*, 24(3), 149-157. <https://doi.org/10.1016/j.jsis.2015.08.002>
- Martinec, R., & van Leeuwen, T. (2020). The Language of New Media Design. In *The Language of New Media Design*. MIT Press. <https://doi.org/10.4324/9781003060499>
- Matarazzo, M., Penco, L., Profumo, G., & Quaglia, R. (2021). Digital transformation and customer value creation in Made in Italy SMEs: A dynamic capabilities perspective. *Journal of Business Research*, 123, 148-2963. <https://doi.org/10.1016/j.jbusres.2020.10.033>
- OECD. (2005). Oslo Manual. In *OECD and Eurostat Publication: Vol. Third edit.* Retrived from [https://www.oecd-ilibrary.org/science-and-technology/oslo-manual\\_9789264013100-en%0Ahttp://www.oecd-ilibrary.org/science-and-technology/oslo-manual\\_9789264013100-en](https://www.oecd-ilibrary.org/science-and-technology/oslo-manual_9789264013100-en%0Ahttp://www.oecd-ilibrary.org/science-and-technology/oslo-manual_9789264013100-en) on May 20, 2022.
- Ondrus, J., Gannamaneni, A., & Lyytinen, K. (2015). The impact of openness on the market potential of multi-sided platforms: A case study of mobile payment platforms. *Journal of Information Technology*, 30(3), 260-275. <https://doi.org/10.1057/jit.2015.7>
- Parker, G.G., Van Alstyne, M.W., & Choudary, S.P. (2016). Platform Revolution. In *W.W. Norton & Company*.
- Pil, F.K., & Cohen, S.K. (2006). Modularity: Implications for imitation, innovation, and sustained advantage. *Academy of Management Review*, 31(4), 995-1011. <https://doi.org/10.5465/AMR.2006.22528166>
- Pisano, G.P., & Teece, D.J. (2007). How to Capture Value from Innovation: Shaping Intellectual Property and Industry Architecture. *California Management Review*, 50(1), 278-296. <https://doi.org/10.2307/41166428>
- Porter, M.E. (1991). Towards a dynamic theory of strategy. *Strategic Management Journal*, 12(2 S), 95-117. <https://doi.org/10.1002/smj.4250121008>
- Rachinger, M., Rauter, R., Müller, C., Vorraber, W., & Schirgi, E. (2019). Digitalization and its influence on business model innovation. *Journal of Manufacturing Technology Management*, 30(8), 1741-1779. <https://doi.org/10.1108/JMTM-01-2018-0020>



- Rajala, A., & Tidström, A. (2017). A multilevel perspective on organizational buying behavior in coopetition—an exploratory case study. *Journal of Purchasing and Supply Management*, 23(3), 202-210. <https://doi.org/10.1016/j.pursup.2017.03.002>
- Ratajczak-Mrozek, M., Fonfara, K., & Hauke-Lopes, A. (2018). The Impact of Conflicts in Foreign Business Relationships on SME Performance. *Entrepreneurial Business and Economics Review*, 6(2), 171-183. <https://doi.org/10.15678/EBER.2018.060209>
- Rohn, D., Bican, P.M., Brem, A., Kraus, S., & Clauss, T. (2021). Digital platform-based business models – An exploration of critical success factors. *Journal of Engineering and Technology Management*, 60, 101625. <https://doi.org/10.1016/j.jengtecman.2021.101625>
- Shenkar, O. (2010). Copycats: how smart companies use imitation to gain a strategic edge. *Strategic Direction*, 26(10), 3-5. <https://doi.org/10.1108/02580541011080474>
- Şimşek, T., Öner, M.A., Kunday, Ö., & Olcay, G.A. (2022). A journey towards a digital platform business model: A case study in a global tech-company. *Technological Forecasting and Social Change*, 175(C). <https://doi.org/10.1016/j.techfore.2021.121372>
- Täuscher, K., & Laudien, S.M. (2018). Understanding platform business models: A mixed methods study of marketplaces. *European Management Journal*, 36(3), 319-329. <http://dx.doi.org/10.1016/j.emj.2017.06.005>
- Teece, D.J. (1997). Next-generation competition: New concepts for understanding how innovation shapes competition and policy in the digital economy. *Journal of Law, Economics & Policy*, 1(c), 1-17.
- Tian, J., Vanderstraeten, J., Matthyssens, P., & Shen, L. (2021). Developing and leveraging platforms in a traditional industry: An orchestration and co-creation perspective. *Industrial Marketing Management*, 92, 14-33. <https://doi.org/10.1016/j.indmarman.2020.10.007>
- Tiwana, A., Konsynski, B., & Bush, A.A. (2010). Platform evolution: Coevolution of platform architecture, governance, and environmental dynamics. *Information Systems Research*, 21(4), 675-687. <https://doi.org/10.1287/isre.1100.0323>
- Yablonsky, S. (2018). A Multidimensional Framework for Digital Platform Innovation and Management: From Business to Technological Platforms. *Systems Research and Behavioral Science*, 35(4), 485-501. <https://doi.org/10.1002/sres.2544>
- Yoo, Y., Henfridsson, O., & Lyytinen, K. (2010). The new organizing logic of digital innovation: An agenda for information systems research. *Information Systems Research*, 21(4), 724-735. <https://doi.org/10.1287/isre.1100.0322>
- Zott, C., Amit, R., & Massa, L. (2011). The business model: Recent developments and future research. *Journal of Management*, 37(4), 1019-1042. <https://doi.org/10.1177/0149206311406265>


### Authors

The contribution share of authors is equal and amounted to 1/3 for each of them.

#### Aleksandra Hauke-Lopes

Assistant Professor in the Department of International Marketing at Poznań University of Economics and Business, Poland. Her scientific research focuses on value creation in business networks and international marketing and cooperation on business-to-business markets.


**Correspondence to:** dr Aleksandra Hauke-Lopes, Poznań University of Economics and Business, Al. Niepodległości 10, 61-875 Poznań, Poland, e-mail: [aleksandra.hauke-lobes@ue.poznan.pl](mailto:aleksandra.hauke-lobes@ue.poznan.pl)

**ORCID**  <http://orcid.org/0000-0002-0879-5499>

#### Marcin Wiczerzycki

Assistant Professor in the Department of International Marketing at Poznań University of Economics and Business, Poland. His research interests include consumer behaviour and value co-creation in the technological context of new media.


**Correspondence to:** dr Marcin Wiczerzycki, Poznań University of Economics and Business, Al. Niepodległości 10, 61-875 Poznań, Poland, e-mail: [marcin.wiczerzycki@ue.poznan.pl](mailto:marcin.wiczerzycki@ue.poznan.pl)

**ORCID**  <http://orcid.org/0000-0002-5696-9836>

#### Milena Ratajczak-Mrozek

Associate Professor in the Department of International Marketing at Poznań University of Economics and Business, Poland. Her main areas of research include companies' relationships and cooperation in an international setting and performance in the global market.

**Correspondence to:** Prof. UEP, dr hab. Milena Ratajczak-Mrozek, Poznań University of Economics and Business, Al. Niepodległości 10, 61-875 Poznań, Poland, e-mail: [milena.ratajczak-mrozek@ue.poznan.pl](mailto:milena.ratajczak-mrozek@ue.poznan.pl)

**ORCID**  <http://orcid.org/0000-0003-4432-5459>

### Acknowledgements and Financial Disclosure

The project was financed within the Regional Initiative for Excellence programme of the Minister of Education and Science of Poland, years 2019-2023, grant no. 004/RID/2018/19, financing 3.000.000 PLN.

### Conflict of Interest

The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

### Copyright and License



This article is published under the terms of the Creative Commons Attribution – NoDerivs (CC BY-ND 4.0) License  
<http://creativecommons.org/licenses/by-nd/4.0/>

Published by Cracow University of Economics – Krakow, Poland



Ministry of Education and Science  
Republic of Poland

The journal is co-financed in the years 2022-2024 by the Ministry of Education and Science of the Republic of Poland in the framework of the ministerial programme "Development of Scientific Journals" (RCN) on the basis of contract no. RCN/SP/0583/2021/1 concluded on 13 October 2022 and being in force until 13 October 2024.



# The differences in the impact of entrepreneurial abilities of various European SMEs on their financial risk perceptions

Mehmet Civelek, Lukáš Durda, Zuzana Vincúrová, Tomáš Dudáš, Ivan Brezina

## ABSTRACT

**Objective:** The objective of the article is to investigate whether the impact of innovativeness and competitiveness of small and medium-sized enterprises (SMEs) on their financial risks differ depending on the countries where SMEs are located.

**Research Design & Methods:** The researchers created an online questionnaire and gained data from 1221 Czech, Slovak, and Hungarian SMEs. Moreover, the researchers applied ordinal logistic regression analyses to achieve the goal of this study.

**Findings:** According to the results, the impact of competitiveness on the bankruptcy risk perception of SMEs differ depending on the countries where they operate. Concerning the impact of innovativeness on financial performance and financial risk management, this article also proves that international differences between SMEs exist.

**Implications & Recommendations:** The developments in the financial literacy of company executives and their managerial experiences and the improvements in credit access conditions, intellectual property rights, and tax legislation can make SMEs reduce their concerns about their financial risks. Thus, policymakers' implementations are crucial to providing equal opportunities for SMEs even if they operate in various markets.

**Contribution & Value Added:** This current research does not only make international comparisons among the investigated variables but also analyses the impacts of entrepreneurial competencies on various indicators of financial risk. These facts not only make this research become a unique study in the literature but also the reason why it should garner the interest of prospective readers such as policymakers, academicians, and SME owners.

**Article type:** research article

**Keywords:** innovativeness; competitiveness; financial risk; financial performance, SMEs

**JEL codes:** G32, G33, L26

Received: 26 August 2022

Revised: 18 November 2022

Accepted: 18 November 2022

## Suggested citation:

Civelek, M., Durda, L., Vincúrová, Z., Dudáš, T., & Brezina, I. (2022). The differences in the impact of entrepreneurial abilities of various European SMEs on their financial risk perceptions. *Entrepreneurial Business and Economics Review*, 10(4), 107-124. <https://doi.org/10.15678/EBER.2022.100407>

## INTRODUCTION

Small and medium-sized enterprises (SMEs) have been called the main driver of labour creation (Ključnikov *et al.*, 2022) and export activities (Civelek & Krajčík, 2022; Pini & Tchorek, 2022) that cause economic development in countries (Abdulrab *et al.*, 2020; Zadeh, 2022). However, most SMEs are not successful as larger businesses when managing their financial risks, because they usually lack the financial resources, assets (Toulová *et al.*, 2016), access to finance, and knowledge regarding risk management (Dvorsky *et al.*, 2020; Kusa, 2020). Because they lack tangible financial resources to manage their financial risks, they have to be effective when using their intangible assets that increase their financial performance. This is because firms indicating higher financial performance are less likely to face financial risks. Financial risk is also related to how firms can manage their debt repayment to not face bankruptcy problems. Bankruptcy occurs when debtors are not able to pay back their liabilities and face insolvency issues (Bič, 2022). In this regard, it is a very costly process for SMEs and owners can be reluctant to establish a

new firm again (Dvorsky *et al.*, 2020). Thus, SMEs' effective financial management is also crucial for their survival. However, their capabilities to manage financial and bankruptcy risk and better financial performance also depend on their entrepreneurial characteristics which are intangible assets of those businesses. In this regard, firms' entrepreneurial capabilities that belong to the Resource-based view such as innovativeness and competitiveness might provide solutions for SMEs to overcome the major financial issues that they face (Abdimomynova *et al.*, 2021). These entrepreneurial characteristics that are based on the Resource-based View enable firms to develop different capabilities, receiving competitive advantages (Jalali *et al.*, 2013) and indicating better financial performance (Deku *et al.*, 2021). Innovativeness and competitiveness are also crucial factors that affect firms' entrepreneurial orientation and firms' revenues (Anwar & Shah, 2021; Jalali *et al.*, 2013).

The continuous development of new technologies creates new methods for businesses to use (Ključnikov *et al.*, 2020a; Teja Kusuma *et al.*, 2022), because firm executives have gained easier access to required information for their operations (Ključnikov *et al.*, 2020b), including financial risk management (Kotaskova *et al.*, 2020). Innovativeness also makes smaller enterprises compete with their larger rivals (Civelek *et al.*, 2021), because innovativeness positively affects the performance and income of those enterprises (Ključnikov *et al.*, 2021). Moreover, innovativeness increases the ability of companies to expand their operations in foreign markets (Martínez-Román *et al.*, 2019) and to fulfil the demand of their foreign customers (Kreiser *et al.*, 2013). In this regard, when companies determine effective factors that increase their customers' satisfaction, they can also gain a competitive advantage (Stefko *et al.*, 2020a). Moreover, firms having competitiveness not only indicate better performance (Stefko *et al.*, 2019) in sustainability practices (Pereira-Moliner *et al.*, 2021), but also decrease the costs of production, gain higher returns from their investments (Csapi & Balogh, 2020), and perceive the financial risks less intensively compared to their less competitive rivals (Dvorsky *et al.*, 2020).

However, these entrepreneurial capabilities might differ depending on the environment, in which SMEs are located, because different countries have various financial, economic, political, and legal conditions that affect entrepreneurial activities (Kocisova *et al.*, 2018). In this regard, this empirical research aims to investigate the differences between SMEs from different countries concerning the impacts of their innovative and competitive attitudes on their financial risk management, bankruptcy risk, and financial performance (Virglerova *et al.*, 2021). Hence, the research question was: "do the innovativeness and competitiveness of SMEs have an impact on their financial risk management, bankruptcy risk, and financial performance differ depending on the countries where they are located?" In line with this selected purpose, this research analysed SMEs from the Czech Republic, Slovakia, and Hungary. Even though those countries have similar cultural and socio-economic conditions, finding differences among SMEs of those Visegrad countries concerning the impacts of their entrepreneurial abilities on financial risk management, might make a valuable addition to academic literature.

Although many studies investigate the impacts of innovativeness or competitiveness on the financial risks of SMEs, they mostly focus on SMEs in a country-specific context (Aftab *et al.*, 2022; Li *et al.*, 2021; López Salazar *et al.*, 2012). Moreover, some studies compare innovative or competitive attitudes of SMEs and their impacts on financial risk management, financial performance, and bankruptcy (Civelek *et al.*, 2020a; de Araújo Lima *et al.*, 2021; Mason *et al.*, 2015). However, these articles analyse only the impact of innovativeness on risk management or competitiveness on financial performance and so on. For these reasons, this current research did not only include international comparisons between the investigated variables, but also analysed the impacts of entrepreneurial competencies on various indicators of financial risk. These facts not only make this research a unique study in the literature, but also the reason why it should garner the interest of prospective readers such as policymakers, academicians, and SME owners might be interested.

The remaining parts of the study are structured as follows: Literature review will give details regarding the theoretical background of the study with the development of the hypotheses. The research methodology will highlight the methodological approaches that the researchers have used to perform data collection and data analysis. The results of the study and hypotheses testing will be presented in the results section. The researchers will discuss the results of the study, recommend some policy im-

plications, and compare their findings with other studies in the discussion section. Finally, the researcher will summarize crucial facts, describe the limitations of this research, and make some recommendations for further studies in the conclusions section.

## LITERATURE REVIEW AND HYPOTHESES DEVELOPMENT

Innovativeness is one of the crucial resources of SMEs that enables competitive advantage (Martínez-Román *et al.*, 2019). The innovative abilities of SMEs stimulate them to create new products and services or develop the existing goods (Kliuchnikava, 2022; Bartolacci *et al.*, 2022). Innovativeness also increases income (Ključnikov *et al.*, 2020c) and value-creating operations of SMEs that have a positive impact on their survival (Kreiser *et al.*, 2013). For instance, Civelek *et al.* (2020b) analysed the usage of innovative marketing tools by SMEs such as technology-enabled marketing tools and revealed that the usage of those tools increases SMEs' sales, revenue, and performance, thus, they might overcome the negative outcomes of bankruptcy issues. Thus, firms need to observe the developments in those new technologies to get more opportunities (Stefko *et al.*, 2022a). They became more available due to the steep development of IT products and innovative solutions in business process support (Roshchik *et al.*, 2022; Straková *et al.*, 2022). Although there are many factors including social, cultural, or economic ones that affect expenditures (Stefko *et al.*, 2022b), firms having more R&D productivity and high value become less likely to go bankrupt (Bai & Tian, 2020). Furthermore, firms lacking innovative abilities are more likely to go bankrupt than innovative firms (Donkor *et al.*, 2018). Some studies also find that innovation carries high importance for the long-term survival of SMEs (Bigliardi, 2013) and innovative activities such as creating new ideas enable firms' survival (Aftab *et al.*, 2022), especially if to consider certain types of innovations linked with technological and market behaviour issues (Lewandowska, 2021). Thanks to this empirical evidence, we can hypothesize that:

**H1a:** A negative relationship exists between innovativeness and bankruptcies of SMEs.

Moreover, bankruptcies might be explained by firms' competitive attitudes. This is because SMEs usually have less financial power which makes them less competitive and more likely to face failures (Kücher *et al.*, 2018; Abu Salma *et al.*, 2021; Karas & Režňáková, 2021). Some competitive strategies such as cost leadership, differentiation, and focus enable SMEs to overcome economic crises and the implementation of those competitive strategies by SMEs is positively related to their survival (Ulubeyli *et al.*, 2018). Moreover, competitive firms increase their profit and fulfil the demands of their customers, thus, they become more likely to survive (Csapi & Balogh, 2020). Similarly, when SMEs differentiate their goods and services from their rivals, they can increase their profits and become more likely to survive long-term (Sebestova *et al.*, 2020; Anwar & Shah, 2021). Firms' technological competitiveness also determines their bankruptcy risk. Firms that are less competitive in technological developments and have fewer patents are more likely to face bankruptcy problems (Eisdorfer & Hsu, 2011). Furthermore, firms focusing more on niche markets can also gain competitive advantages against their rivals and this increases their probability of survival. Although SMEs have more limited abilities and resources than their larger rivals, applying competitive strategies in their operations increases their competitive power and reduces their bankruptcy issues (Ulubeyli *et al.*, 2018). The results of the studies that are mentioned above lead to another hypothesis:

**H1b:** A negative relationship exists between competitiveness and bankruptcies of SMEs.

Innovativeness is a crucial capability of firms to continuously create new ideas, products, and services and to develop existential goods, organizational routines, technological procedures, and production processes (Kreiser *et al.*, 2013). Having such ability also increases firms' chances to penetrate markets, increase their market shares, and access new markets (Deku *et al.*, 2021), therefore, innovative firms achieve more improvement in growth (Li *et al.*, 2021), and increase profits (Stefko *et al.*, 2020b). Innovative firms also have high technological creativity (Deku *et al.*, 2021) to provide efficient and quick responses against changing market conditions and customers' demands (Kreiser *et al.*, 2013). In this regard, innovative firms can create business opportunities, differentiate their products, and apply more research and development activities that increase their competitive

power against their rivals (Anwar & Shah, 2021). Therefore, a positive relationship exists between innovativeness and the financial performance of firms (Anwar & Shah, 2021; Deku *et al.*, 2021). This positive relationship between innovativeness and the financial performance of SMEs has been also substantiated by some studies that investigate SMEs from Pakistan (Aftab *et al.*, 2022; Anwar & Shah, 2021), Ghana (Deku *et al.*, 2021; Li *et al.*, 2021), and Iran (Jalali *et al.*, 2013). Due to having those arguments, a research hypothesis might be presented as follows:

**H2a:** A positive relationship exists between innovativeness and the financial performance of SMEs.

On the other hand, firms become competitive when hitting their targets regarding market share such as reducing their prices and increasing their profits (Ulubeyli *et al.*, 2018). By doing so, firms draw out their rivals and give quick responses to their competitors' actions (Mason *et al.*, 2015). Moreover, firms implementing competitive strategies such as differentiation (Anwar & Shah, 2021) and cost leadership strategies (Ulubeyli *et al.*, 2018) can maintain their positions in the markets where they operate and get competitive advantages against their rivals. For these reasons, their competitive attitudes have positive impact on their financial performance (Anwar & Shah, 2021; Csapi & Balogh, 2020). The positive relationship between competitiveness and financial performance was also confirmed by some studies that investigate SMEs from Saudi Arabia (Abdulrab *et al.*, 2020), Pakistan (Anwar & Shah, 2021), and Ghana (Li *et al.*, 2021). Considering those arguments, we may hypothesize:

**H2b:** A positive relationship exists between competitiveness and the financial performance of SMEs.

Risk management consists of some activities such as reducing costs, financial shocks, and distress (Yang *et al.*, 2018), utilization of financial resources, and management of financial operations (Karadağ, 2018). Firms lacking financial risk management abilities face different financial problems (Karadağ, 2018). Since SMEs lack resources, they need effective financial management strategies. In this regard, innovation enables strategic flexibility and minimizes risk for SMEs (Martínez-Román *et al.*, 2019). Moreover, firms having more innovative initiatives get higher returns and face reduced financial risk compared to their less innovative counterparts (Zhang *et al.*, 2020). De Araújo Lima *et al.* (2021) analysed some SMEs in Italy and Spain and provided evidence that innovation leads firms to adopt more risk management strategies. Innovativeness also makes firms reduce and correctly evaluate their financial risks including credit, liquidity, operational, market risk, and solvency risks (Olalere *et al.*, 2021). For these reasons, innovativeness is an efficient tool for the financial risk management of SMEs. In this regard, we may hypothesize:

**H3a:** A positive relationship exists between innovativeness and financial risk management of SMEs.

Financial risk management is another vital issue for SMEs to increase their performance (Dvorsky *et al.*, 2020). This is because SMEs having issues with risk management can lose their competitive power and face more issues while trying to survive (Oláh *et al.*, 2019) such as encountering more costs in their operations (Yang *et al.*, 2018). In this regard, their competitive strategies such as aggressive management of their businesses might be an approach to managing this risk (Toulová *et al.*, 2016). For instance, Liu *et al.* (2021) analysed SMEs in China and found that competitive firms can reduce the risks that they face during their operations. Yang *et al.* (2018) also examined SMEs in Pakistan and stated that competitive firms can use enterprise risk management practices more effectively than their less competitive counterparts. Yang *et al.* (2018) also vindicated the positive relationship between risk management and the competitiveness of firms. Moreover, López Salazar *et al.* (2012) examined Mexican SMEs and substantiated that competitive firms are effective in financial management. The positive relationship between competitiveness and financial management of small enterprises has been also proved by the study by Karadağ (2018) that analysed Turkish firms. This empirical evidence allows us to hypothesize that:

**H3b:** A positive relationship exists between firm competitiveness and financial risk management of SMEs.

## RESEARCH METHODOLOGY

The purpose of this empirical research was to discover the differences in the impact of innovativeness and competitiveness on the perception of financial issues by SMEs in various countries. In this regard, this study analysed SMEs from three countries, namely the Czech Republic, Slovakia, and Hungary. The research team applied the random sampling method to create research samples from the Cribis database. Moreover, the researchers generated an online survey and the links to the same questionnaire were directed to the randomly selected respondents by e-mail. Finally, 454 managers or owners of Czech SMEs, 368 managers or owners of Slovak SMEs, and 399 managers or owners of Hungarian SMEs filled out the online questionnaire.

To measure one of the independent variables of the research models, namely the innovativeness of SMEs, the following statements were directed to the survey participants: 'We place great emphasis on the innovation of our products and services, and it is positively reflected in the performance of the company.' Moreover, another independent variable of the research models, namely competitiveness was evaluated as follows: 'Business competition motivates us to perform better.' Corresponding to the measurement of the dependent variables, namely bankruptcy risk, financial performance, and financial risk management, the following statements were included in the online survey: 'There is no risk of bankruptcy for our (my) company within 5 years,' 'I evaluate the financial performance of our (my) company positively,' and 'I can adequately manage the financial risk in my (our) company.'

The researchers employed a five-point Likert scale as '1 – completely disagree', '2 – disagree', '3 – neither agree nor disagree', '4 – agree', and '5 – completely agree' to scale the responses of the survey participants for the statements that are explained in the previous paragraph. In this regard, lower ratings by survey respondents in innovative and competitive attitudes of SMEs were related to lower financial performance and financial risk management capabilities. On the other hand, lower values from the bankruptcy variable represented a higher probability of facing bankruptcy issues for SMEs.

To investigate the impact of independent variables on the dependent variables, the researchers ran Ordinal Logistic Regression Test. The reason is that all dependent and independent variables in this research were ranked and measured by a five-point Likert scale. Moreover, the researchers used the Logit function in the SPSS program to analyse this research. Some studies also applied this method when evaluating the innovativeness, competitiveness, and financial conditions of businesses (Campbell *et al.*, 2008; Civelek *et al.*, 2020a; Eisdorfer & Hsu, 2011).

The created research models that are based on Ordinal Logit Regression are as follows:

1st Research Model:

$$\text{Logit}(P(Y \leq j)) = \beta_j 0 + \beta_j 1 X_1 + \beta_j 2 X_2 \quad (1)$$

Y<sub>1</sub> = Dependent variable (bankruptcy risk)

2nd Research Model:

$$\text{Logit}(P(Y \leq j)) = \beta_j 0 + \beta_j 1 X_1 + \beta_j 2 X_2 \quad (2)$$

Y<sub>2</sub> = financial performance

3rd Research Model:

$$\text{Logit}(P(Y \leq j)) = \beta_j 0 + \beta_j 1 X_1 + \beta_j 2 X_2 \quad (3)$$

Y<sub>3</sub>: financial risk management;

J = categories;

X<sub>1</sub> – Independent variable (X<sub>1</sub>: innovativeness in the 1st, 2nd and 3rd research models);

X<sub>2</sub> – Independent variable (X<sub>2</sub>: competitiveness in the 1st, 2nd and 3rd research models);

B<sub>1</sub> – Regression coefficients;

β<sub>0</sub> – Constant or intercept term;

P- predictor.

This research also considered the volumes from the model fitting, goodness of fit, and test of parallel lines analyses to investigate whether the assumptions of ordinal logistic regression were fulfilled. The values from these analyses are illustrated below in Table 1. If the values that are presented under



'Sig.' column of model fitting are less than 5% significance level, it can be stated that the created models fit with the data. According to the table, p values were significant at the 5% significance level (Model 1 Czech sample=  $\chi^2(8) = 32.866$ , Sig,  $p < 0.05$ ; Slovak sample=  $\chi^2(8) = 29.549$ , Sig,  $p < 0.05$ ; Hungarian sample=  $\chi^2(8) = 71.005$ , Sig,  $p < 0.05$ ; Model 2 Czech sample=  $\chi^2(8) = 67.665$ , Sig,  $p < 0.05$ ; Slovak sample=  $\chi^2(8) = 66.098$ , Sig,  $p < 0.05$ ; Hungarian sample=  $\chi^2(8) = 95.832$ , Sig,  $p < 0.05$ ; Model 3 Czech sample=  $\chi^2(8) = 61.918$ , Sig,  $p < 0.05$ ; Slovak sample=  $\chi^2(8) = 79.612$ , Sig,  $p < 0.05$ ; Hungarian sample=  $\chi^2(8) = 95.958$ , Sig,  $p < 0.05$ ). For this reason, the models fit with the data and the inclusion of independent variables, namely innovativeness and competitiveness into the research models increased the ability of these new models to make better predictions for the dependent variables. Moreover, the overall model fit was also developed by adding those independent variables.

On the other hand, the values from Cox and Snell and Nagelkerke indicators that are presented in Table 1, clarified the percentage of changes that independent variables (innovativeness and competitiveness) made on the outcome variables of the research models. The inclusion of innovativeness and competitiveness into the first research model for various research samples represents 7.4%, 8.2%, and 13% changes in bankruptcy risk, respectively. Furthermore, 14.9%, 17.7%, and 23.5% variations in financial performance (of Czech, Slovak, and Hungarian SMEs, respectively) might be explained by the inclusion of the innovativeness and competitiveness in the second research model.

**Table 1. Test results for the assumptions of Ordinal Logistic Regression**

Country	Assumptions	Model fitting				Goodness of fit Pseudo R-square		Test of parallel lines			
	Models	-2 Log likelihood	Chi-Square	df	Sig.	Cox & Snell	Nagelkerke	-2 Log likelihood	Chi-Square	df	Sig.
Czech	Model 1	263.355	32.866	8	0.000	0.070	0.074	236.162	27.193	24	0.296
Slovakia	Model 1	220.772	29.549	8	0.000	0.077	0.082	176.483	44.288	24	0.388
Hungary	Model 1	222.216	51.609	8	0.000	0.121	0.130	148.267	73.948	24	0.761
Czech	Model 2	260.858	67.665	8	0.000	0.138	0.149	315.421	26.594	24	0.283
Slovakia	Model 2	214.302	66.098	8	0.000	0.164	0.177	175.299	39.004	24	0.354
Hungary	Model 2	277.110	95.832	8	0.000	0.214	0.235	181.277	16.707	24	0.143
Czech	Model 3	298.205	61.918	8	0.000	0.127	0.139	146.213	90.075	24	0.852
Slovakia	Model 3	262.305	79.612	8	0.000	0.195	0.213	127.987	54.706	24	0.491
Hungary	Model 3	252.828	92.958	8	0.000	0.208	0.235	152.782	17.088	24	0.152

Note: Sig. – significance.

Source: own study.

To analyze the similarities between the slope coefficients of the cut-offs, the researchers considered the results from the test of parallel lines. Because the variables in the research models were measured on a five-point Likert scale, there were four levels (cut-offs) in those variables. Therefore, cut-off '1' indicated the cut-off value between the answers of 'completely disagree' to 'disagree', cut-off '2' showed the cut-off value between the replies of 'disagree' to 'neither agree nor disagree', cut-off '3' represented the cut-off value between the responses of 'neither agree nor disagree' to 'agree' and cut off '4' demonstrated the cut-off value between the responses of 'agree' to 'completely agree.' The P volumes that are greater than 5% enabled the fulfilment of this assumption of Ordinal Logistic Regression. Because all p values illustrated in Table 1 ('Sig.' column under Test of Parallel Lines) are higher than the 5% level of significance, this assumption is also fulfilled by the analyses. As already confirmed by the assumption testing, this study did not violate any assumptions of ordinal logistic regression. Hence, it was convenient to use the ordinal logistic regression test to achieve the goal of this research. Moreover, the details regarding the sample profile are also depicted in Table 2 which is presented below.

Corresponding to the hypotheses testing, this study used 5% significance. In this regard, p values smaller than 0.05 prove that this study supported the research hypotheses and vice versa. On the other hand, null hypotheses declared the nonexistence of positive and negative effects of innovativeness and competitiveness on bankruptcy risk, financial performance, and financial risk management.

**Table 2. Sample profile**

Criteria		Czech		Slovak		Hun	
		<i>n</i>	Share	<i>N</i>	Share	<i>N</i>	Share
Firm size	micro	290	63.88%	216	58.70%	268	67.17%
	small	107	23.57%	106	28.80%	73	18.29%
	medium	57	12.55%	46	12.50%	58	14.54%
	Total	454	100%	368	100%	399	100%
Firm age	up to 5 years	55	12.11%	53	14.40%	85	21.30%
	6 to 10 years	64	14.10%	52	14.13%	62	15.54%
	more than 10 years	335	73.79%	263	71.47%	252	63.16%
	Total	454	100%	368	100%	399	100%
Firm sector	manufacturing	135	29.74%	70	19.02%	109	27.32%
	retailing	266	58.59%	76	20.65%	240	60.15%
	service	34	7.49%	152	41.30%	18	4.51%
	others	19	4.18%	70	19.02%	32	8.02%
Total	454	100%	368	100%	399	100%	
Age of firm executives	Young (max. 45)	175	38.55%	145	39.40%	193	48.37%
	Old (more than 45)	279	61.45%	223	60.60%	206	51.63%
	Total	454	100%	368	100%	399	100%
Educational Status of firm executives	Less than university	231	50.88%	76	20.65%	67	16.79%
	Minimum university	223	49.12%	292	79.35%	332	83.21%
	Total	454	100%	368	100%	399	100%

Source: own study.

## RESULTS AND DISCUSSION

### Results

As already mentioned in the Methodology section, this study employed a five-point Likert scale to measure the volumes of the dependent and independent variables. For this reason, there were four levels (cut-offs) in these ordinals and ranked independent and dependent variables of the research models. Those cut-offs were also depicted in the tables in the Results section.

Table 3 is presented below to illustrate the results of this study regarding the 1st research model. According to the table, p-values ('Sig.' in the Table) for innovativeness are not significant at the 5% significance level for all of the research samples. For this reason, innovativeness is not a significant predictor of bankruptcy and there is not any significant relationship between innovativeness and bankruptcy. Thus, this study failed to support the H1a hypothesis. Because this fact is valid for all the research samples, this study found no differences among SMEs of various countries regarding the investigated variables.

Concerning the impact of competitiveness on bankruptcy, while the cut-off values for competitiveness were not significant at the 5% level of significance in the Slovak sample, these values for Czech and Hungarian samples were significant at this significance level for the cut-offs of '3' and '4' (p values for 'competitiveness=3' and 'competitiveness=4' for Czech and Hungarian samples were 0.011, 0.008, 0.020, and 0.000, respectively). Therefore, competitiveness was a significant predictor of bankruptcy predictions of Czech and Hungarian SMEs.

As indicated in Table 3, the volumes of coefficients (the 'Estimate' column in Table 3) for the 3rd and 4th cut-offs of competitiveness in the Czech and Hungarian samples are negative (-1.480, -1.690, -1.584, -2.610, respectively). In this regard, a one-unit decrease in Czech and Hungarian SMEs' competitiveness enables them to perceive the bankruptcy risk less intensively compared to their more competitive counterparts. Thus, there is a positive relationship between the competitiveness of Czech and Hungarian SMEs and their more intensive perception of bankruptcy risk. Because this study does not find any significant relationship between the competitiveness of Slovak SMEs and their bankruptcies and finds a positive relationship between the competitiveness of Czech and Hungarian SMEs and their bankruptcies, this research does not support the H1b hypothesis.

**Table 3. The results regarding the 1st research model**

Country	Variable	Estimate	S.E.	Wald	df	Sig.	95% CI [Lower Upper]
<b>MODEL-1</b>							
Czech Republic	Bankruptcy = 1	-3.593	0.802	20.093	1	0.000	[-5.164 2.022]
	Bankruptcy = 2	-2.678	0.787	11.576	1	0.001	[-4.220 -1.135]
	Bankruptcy = 3	-1.187	0.779	2.320	1	0.128	[-2.715 0.340]
	Bankruptcy = 4	0.268	0.777	0.119	1	0.730	[-1.255 1.792]
	Innovativeness = 1	0.932	0.631	2.179	1	0.140	[-0.305 2.169]
	Innovativeness = 2	0.410	0.622	0.433	1	0.510	[-0.810 1.630]
	Innovativeness = 3	0.405	0.626	0.417	1	0.518	[-0.823 1.632]
	Innovativeness = 4	-0.252	0.674	0.140	1	0.708	[-1.572 1.068]
	Competitiveness = 1	-0.757	0.564	1.802	1	0.179	[-1.861 0.348]
	Competitiveness = 2	-1.192	0.560	4.532	1	<b>0.033</b>	[-2.289 -0.095]
Competitiveness = 3	-1.480	0.581	6.481	1	<b>0.011</b>	[-2.619 -0.341]	
Competitiveness = 4	-1.690	0.637	7.036	1	<b>0.008</b>	[-2.939 -0.441]	
Slovakia	Bankruptcy = 1	-3.842	1.510	6.472	1	0.011	[-6.803 -0.882]
	Bankruptcy = 2	-2.607	1.498	3.028	1	0.082	[-5.543 0.329]
	Bankruptcy = 3	-0.831	1.492	0.310	1	0.577	[-3.756 2.094]
	Bankruptcy = 4	0.635	1.492	0.181	1	0.671	[-2.290 3.559]
	Innovativeness = 1	-0.061	1.309	0.002	1	0.963	[-2.625 2.504]
	Innovativeness = 2	-0.828	1.299	0.406	1	0.524	[-3.374 1.718]
	Innovativeness = 3	-1.179	1.300	0.823	1	0.364	[-3.727 1.369]
	Innovativeness = 4	-1.658	1.358	1.492	1	0.222	[-4.319 1.003]
	Competitiveness = 1	0.216	0.768	0.079	1	0.779	[-1.289 1.721]
	Competitiveness = 2	-0.054	0.759	0.005	1	0.943	[-1.541 1.433]
Competitiveness = 3	-0.143	0.773	0.034	1	0.853	[-1.658 1.372]	
Competitiveness = 4	-0.291	0.813	0.128	1	0.720	[-1.885 1.302]	
Hungary	Bankruptcy = 1	-3.044	0.776	15.389	1	0.000	[-4.565 -1.523]
	Bankruptcy = 2	-1.980	0.757	6.847	1	0.009	[-3.463 -0.497]
	Bankruptcy = 3	-0.804	0.750	1.149	1	0.284	[-2.273 0.666]
	Bankruptcy = 4	1.215	0.750	2.622	1	0.105	[-0.256 2.685]
	Innovativeness = 1	1.836	0.694	6.994	1	0.008	[0.475 3.196]
	Innovativeness = 2	1.134	0.660	2.954	1	0.086	[-0.159 2.428]
	Innovativeness = 3	1.405	0.672	4.365	1	0.137	[0.087 2.723]
	Innovativeness = 4	0.409	0.740	0.305	1	0.581	[-1.042 1.860]
	Competitiveness = 1	-0.644	0.673	0.917	1	<b>0.338</b>	[-1.963 0.674]
	Competitiveness = 2	-0.913	0.651	1.968	1	<b>0.161</b>	[-2.189 0.363]
Competitiveness = 3	-1.584	0.678	5.454	1	<b>0.020</b>	[-2.914 -0.255]	
Competitiveness = 4	-2.610	0.716	13.305	1	<b>0.000</b>	[-4.013 -1.208]	

Note: Sig.: significance.

Source: own study.

The results of this study regarding the 2nd research model are provided below in Table 4. According to the table, the volumes of cut-offs were all significant at 5% significance level for innovativeness of Hungarian SMEs (Innovativeness: 1  $p=0.000$ ; Innovativeness:2  $p=0.000$ ; Innovativeness: 3  $p=0.000$ ; Innovativeness:4  $p=0.004$ ). Hence, innovativeness is a significant predictor of the financial performance of Hungarian SMEs. Concerning the values of the coefficients for each of the cut-offs, they were all negative (The values from the 'Estimate' column for Innovativeness 1: -4.259, Innovativeness 2: -3.531, Innovativeness 3: -2.681, Innovativeness 4: -2.229). Therefore, a one-unit decrease in Hungarian SMEs' innovativeness makes them have greater financial performance than more innovative Hungarian SMEs. However, since  $p$  values were not significant for the cut-offs of the innovativeness for Czech and Slovak SMEs, innovativeness (all  $p$  values were greater than the 5% significance level) is not a significant predictor of the financial performance of Czech and Slovak SMEs. Thus, the financial performance of

Czech and Slovak SMEs does not depend on their innovativeness. In this regard, Hungarian SMEs differ from their Czech and Slovak counterparts. Due to the existence of a negative association (in the Hungarian case) and the nonexistence of any associations between innovativeness and financial performance (in both Czech and Slovak cases) this study failed to support H2a hypothesis.

Corresponding to the impact of competitiveness on financial performance, there was no significant result in any of the research samples. This was because p values for competitiveness were greater than the 5% level of significance. Thus, competitiveness is not a significant variable to predict the financial performance of SMEs. In this regard, this study did not support the H2b hypothesis. Within this context, Czech, Slovak, and Hungarian SMEs did not differ.

**Table 4. The results regarding the 2nd research model**

Country	Variable	Estimate	S.E.	Wald	df	Sig.	95% CI [Lower Upper]
<b>MODEL-2</b>							
Czech Republic	Fin. perf. = 1	-1.578	0.777	4.123	1	0.042	[-3.101 -0.055]
	Fin. perf. = 2	0.568	0.774	0.540	1	0.462	[-0.948 2.084]
	Fin. perf. = 3	2.165	0.783	7.641	1	0.006	[0.630 3.700]
	Fin. perf. = 4	3.408	0.812	17.618	1	0.000	[1.817 5.000]
	Innovativeness = 1	-1.198	0.643	3.474	1	0.062	[-2.459 0.062]
	Innovativeness = 2	-.0562	0.634	0.787	1	0.375	[-1.804 0.680]
	Innovativeness = 3	-0.034	0.636	0.003	1	0.957	[-1.282 1.213]
	Innovativeness = 4	0.458	0.685	0.448	1	0.503	[-0.884 1.801]
	Competitiveness = 1	-0.210	0.544	0.149	1	0.699	[-1.275 0.855]
	Competitiveness = 2	0.279	0.539	0.267	1	0.605	[-0.778 1.335]
	Competitiveness = 3	0.852	0.562	2.294	1	0.130	[-0.250 1.954]
	Competitiveness = 4	1.384	0.622	4.950	1	0.026	[0.165 2.603]
Slovakia	Fin. perf. = 1	-4.945	1.575	9.862	1	0.002	[-8.031 -1.859]
	Fin. perf. = 2	-2.516	1.567	2.578	1	0.108	[-5.587 0.555]
	Fin. perf. = 3	-1.281	1.563	0.672	1	0.412	[-4.344 1.783]
	Fin. perf. = 4	1.092	1.557	0.492	1	0.483	[-1.960 4.144]
	Innovativeness = 1	-3.859	1.390	7.709	1	0.005	[-6.582 -1.135]
	Innovativeness = 2	-3.035	1.376	4.863	1	0.027	[-5.732 -0.337]
	Innovativeness = 3	-2.633	1.375	3.670	1	0.055	[-5.328 0.061]
	Innovativeness = 4	-1.745	1.423	1.503	1	0.220	[-4.534 1.045]
	Competitiveness = 1	-0.855	0.786	1.183	1	0.277	[-2.395 0.686]
	Competitiveness = 2	0.076	0.774	0.010	1	0.922	[-1.440 1.592]
	Competitiveness = 3	0.119	0.788	0.023	1	0.880	[-1.425 1.664]
	Competitiveness = 4	0.397	0.827	0.230	1	0.631	[-1.225 2.019]
Hungary	Fin. perf. = 1	-3.858	0.780	24.484	1	0.000	[-5.386 -2.330]
	Fin. perf. = 2	-1.081	0.767	1.987	1	0.159	[-2.585 0.422]
	Fin. perf. = 3	0.755	0.758	0.991	1	0.319	[-0.731 2.241]
	Fin. perf. = 4	2.819	0.863	10.661	1	0.001	[1.127 4.511]
	Innovativeness = 1	-4.259	0.735	33.570	1	<b>0.000</b>	[-5.699 -2.818]
	Innovativeness = 2	-3.531	0.698	25.600	1	<b>0.000</b>	[-4.899 -2.163]
	Innovativeness = 3	-2.681	0.700	14.675	1	<b>0.000</b>	[-4.053 -1.309]
	Innovativeness = 4	-2.229	0.770	8.386	1	<b>0.004</b>	[-3.738 -0.720]
	Competitiveness = 1	0.164	0.685	0.058	1	0.810	[-1.179 1.508]
	Competitiveness = 2	1.045	0.663	2.481	1	0.115	[-0.255 2.345]
	Competitiveness = 3	1.764	0.693	6.468	1	0.111	[-0.404 3.123]
	Competitiveness = 4	1.028	0.726	2.005	1	0.157	[-0.395 2.451]

Note: Sig.: significance.

Source: own study.

The findings of this study concerning the impacts of innovativeness and competitiveness on financial risk management are depicted in Table 5. As illustrated in Table 5, competitiveness is not

a significant independent variable to predict the financial risk management of SMEs. The reason is that all p values ('Sig.') were higher than the 5% level of significance. Thus, the competitiveness of SMEs does not have any significant effect on their financial performance. Therefore, this study failed to support H3b hypothesis. Because Czech, Slovak, and Hungarian SMEs indicated similar patterns in this relationship, they did not differ.

Regarding the effect of innovativeness on financial risk management, the cut-off values in the Hungarian sample were significant at the 5% significance level (Innovativeness: 1 p=0.000; Innovativeness: 2 p=0.000; Innovativeness: 3 p=0.000; Innovativeness: 4 p=0.001). Moreover, the coefficients for the cut-offs were negative (The values from the 'Estimate' column for Innovativeness 1: -4.120, Innovativeness 2: -2.826, Innovativeness 3: -2.604, Innovativeness 4: -2.736). The volumes for the p-values and the coefficients confirmed that Hungarian SMEs with lower ratings in innovativeness were more likely to manage their financial risk compared to their more innovative counterparts.

**Table 5. The results regarding the 3rd research model**

Country	Variable	Estimate	S.E.	Wald	df	Sig.	95% CI [Lower Upper]
<b>MODEL-3</b>							
Czech Republic	Risk man. = 1	-1.793	0.784	5.225	1	0.022	[-3.330 -0.256]
	Risk man. = 2	0.371	0.780	0.226	1	0.634	[-1.158 1.900]
	Risk man. = 3	2.298	0.793	8.388	1	0.004	[0.743 3.853]
	Risk man. = 4	3.487	0.838	17.315	1	0.000	[1.845 5.130]
	Innovativeness = 1	-1.846	0.650	8.072	1	0.004	[-3.120 -0.573]
	Innovativeness = 2	-0.703	0.638	1.214	1	0.270	[-1.953 0.547]
	Innovativeness = 3	-0.681	0.642	1.128	1	0.288	[-1.939 0.576]
	Innovativeness = 4	-0.452	0.691	0.428	1	0.513	[-1.806 0.902]
	Competitiveness = 1	-0.095	0.551	0.030	1	0.864	[-1.174 0.985]
	Competitiveness = 2	0.351	0.546	0.413	1	0.521	[-0.720 1.422]
Competitiveness = 3	1.046	0.570	3.365	1	0.167	[-0.072 2.163]	
Competitiveness = 4	0.802	0.629	1.623	1	0.203	[0.432 2.035]	
Slovakia	Risk man. = 1	-3.734	1.537	5.900	1	0.015	[-6.747 -0.721]
	Risk man. = 2	-1.086	1.527	0.506	1	0.477	[-4.080 1.908]
	Risk man. = 3	0.862	1.527	0.319	1	0.572	[-2.130 3.855]
	Risk man. = 4	3.479	1.664	4.369	1	0.037	[0.217 6.740]
	Innovativeness = 1	-2.568	1.339	3.677	1	0.055	[-5.193 0.057]
	Innovativeness = 2	-1.651	1.325	1.554	1	0.213	[-4.248 0.945]
	Innovativeness = 3	-0.932	1.323	0.496	1	0.481	[-3.524 1.661]
	Innovativeness = 4	-1.025	1.382	0.550	1	0.458	[-3.734 1.684]
	Competitiveness = 1	-1.325	.802	2.734	1	0.098	[-2.896 0.246]
	Competitiveness = 2	-0.187	.787	0.056	1	0.813	[-1.729 1.356]
Competitiveness = 3	-0.037	.802	0.002	1	0.963	[-1.609 1.534]	
Competitiveness = 4	-0.149	.844	0.031	1	0.860	[-1.802 1.504]	
Hungary	Risk man. = 1	-4.530	0.798	32.210	1	0.000	[-6.094 -2.965]
	Risk man. = 2	-1.095	0.777	1.986	1	0.159	[-2.617 0.428]
	Risk man. = 3	0.509	0.770	0.436	1	0.509	[-1.001 2.018]
	Risk man. = 4	2.723	0.911	8.936	1	0.003	[0.937 4.508]
	Innovativeness = 1	-4.120	0.738	31.196	1	<b>0.000</b>	[-5.566 -2.674]
	Innovativeness = 2	-2.826	0.695	16.549	1	<b>0.000</b>	[-4.187 -1.464]
	Innovativeness = 3	-2.604	0.705	13.639	1	<b>0.000</b>	[-3.985 -1.222]
	Innovativeness = 4	-2.736	0.794	11.870	1	<b>0.001</b>	[-4.292 -1.179]
	Competitiveness = 1	-0.684	0.722	0.897	1	0.343	[-2.099 0.731]
	Competitiveness = 2	0.197	0.698	0.080	1	0.778	[-1.170 1.564]
Competitiveness = 3	0.959	0.727	1.738	1	0.187	[-0.467 2.384]	
Competitiveness = 4	1.225	0.759	2.604	1	0.107	[-0.263 2.713]	

Note: Sig.: significance

Source: own study.

However, this result from the Hungarian sample was not compatible with the other research samples. This is because p values for the levels of innovativeness (especially for the 2nd, 3rd, and 4th cut-offs) in Czech and Slovak samples were higher than the selected significance level. Hence, innovativeness was not a significant predictor of financial risk management of Czech and Slovak SMEs. This result confirmed that a difference exists between Czech or Slovak SMEs and Hungarian SMEs concerning the relationship between innovativeness and financial risk management. Because this study confirmed the negative (in the Hungarian sample) or non-existent relationship between innovativeness and financial risk management of SMEs (in Czech and Slovak samples), this study failed to support H3a hypothesis.

### Discussion

Concerning the impact of innovativeness on the bankruptcy perception of Czech, Slovak, and Hungarian SMEs, this study found no country-level differences. This result is compatible with the study of Civelek *et al.* (2020a) since those researchers did not confirm the differences between countries regarding the impact of innovative actions of SMEs on their bankruptcies. Regarding the relationship between the competitiveness of SMEs and their perceptions of bankruptcy risk, this study explored the differences between Czech and Slovak, and Slovak and Hungarian SMEs. On the other hand, Khan *et al.* (2020) confirmed the differences in the perception of bankruptcy risk by Czech and Slovak SMEs. Hence, the results of this study regarding the bankruptcy perception of Czech and Slovak SMEs are in line with the findings of Khan *et al.* (2020).

When it comes to the impact of innovativeness on financial performance, this study confirmed the differences between Czech and Hungarian, and Slovak and Hungarian SMEs. In this regard, this study found similar results to the studies of Lindman *et al.* (2008), Ključnikov *et al.* (2020c), because these researchers also declared the differences between the innovative performance of SMEs from various countries including Czech and Turkish (Ključnikov *et al.*, 2020c) and Spanish, Finnish, and Italian SMEs (Lindman *et al.*, 2008).

Corresponding to the effects of competitiveness on the financial performance of SMEs, this study revealed no differences between various countries' SMEs. However, Mason *et al.* (2015) compared competitive attitudes on the performance of Italian and Austrian SMEs and found differences among those SMEs. While competitiveness negatively influenced the performance of Italian SMEs, it positively affected the performance of Austrian SMEs. Thus, the result of this article regarding competitiveness and performance is not consistent with the study of Mason *et al.* (2015).

While innovation affects the financial management of Hungarian SMEs, it does not have any impact on the financial risk management of Slovak and Czech SMEs. Thus, Czech and Hungarian, and Slovak and Hungarian SMEs indicated various attitudes in this manner. Martínez-Román *et al.* (2019) also highlighted the differences between 13 different European countries regarding the effects of innovation in risk management. For this reason, the result of this research is compatible with the study of Martínez-Román *et al.* (2019).

This study also found some other similarities among Czech, Slovak, and Hungarian samples, because the competitiveness of Czech, Slovak, and Hungarian SMEs does not influence their financial risk management practices. Toulouva *et al.* (2016) also compared the risk management approaches of SMEs from various European countries including the Czech Republic, Slovakia, Germany, Austria, and Poland and substantiated the differences between them (Halaskova *et al.*, 2022). Thus, the result of this study regarding financial risk management differs from the study of Toulouva *et al.* (2016).

As already mentioned above, this research confirmed the nonexistence of the differences between Czech, Slovak, and Hungarian SMEs regarding the impact of their competitiveness on financial performance and financial risk management and innovativeness on bankruptcy. The reason for these results might stem from the common historical, social, and economic characteristics that these countries have (Oláh *et al.*, 2019). Therefore, these factors might have made SMEs from these countries show similarities concerning the effects of innovativeness and competitiveness on bankruptcy, financial performance, and financial risk management, respectively.

On the other hand, this study proved the differences between Czech, Slovak, and Hungarian SMEs concerning the effects of their innovativeness on financial performance and financial risk management and their competitiveness on bankruptcy. According to Statista (2021), the number of insolvencies in both the Czech Republic (11500) and Hungary (5200) is higher than the number of insolvencies in Slovakia (2186). Since SMEs in both the Czech Republic and Hungary might be aware of this situation, they might behave less competitively in performing their operations. By doing so, SMEs behaving less competitively might think that they are less likely to go bankrupt. This fact might be the reason, why less competitive Czech and Hungarian SMEs less intensively perceive bankruptcy risk.

Regarding the differences in innovativeness among those countries, financial performance and financial risk management, political risk, competition in a specific market (Dvorsky *et al.*, 2020; Toulouva *et al.*, 2016), and cultural differences (Ključnikov *et al.*, 2020c) might be strong arguments to explain why Hungarian SMEs differ from their Czech and Slovak counterparts. The Global Competitiveness Index might be a good indicator to highlight the differences in the market competitiveness in various countries. According to the Global Competitiveness Report, the score of Hungary on the competitiveness index is lower than the Czech Republic and Slovakia (Trading Economics, n.d.). Being located in a less competitive environment might make SMEs behave less innovatively and this fact might be a reason why less innovative Hungarian SMEs have higher financial performance and are good at managing financial risk in comparison with their more innovative counterparts. Corresponding to cultural differences, due to being formerly Czechoslovakia, the Czech Republic and Slovakia indicate more similarities in values and norms (Civelek *et al.*, 2020b) compared to Hungary. In this regard, Hofstede's Uncertainty Avoidance dimension can be considered to compare risk perception of individuals from various countries. This is because Hofstede created an uncertainty avoidance index (UAI) that enables us to evaluate risk perception (Stefko *et al.*, 2022c). Moreover, Hofstede *et al.* (2010) declared the fact that SMEs in countries with higher uncertainty avoidance have fewer propensities to take a risk and perform innovative operations. According to Hofstede Index (Hofstede Insights, n.d.), uncertainty avoidance is higher in Hungary than in Czechia and Slovakia, thus, Hungarian firms behave less innovatively and are risk-averse against risky circumstances. By doing so, less innovative Hungarian SMEs could get better financial performance and financial risk management. Regarding political risk, it is higher in Hungary than in Czechia and Slovakia (Regional Political Risk Index, PRS Group, 2020). This political risk in Hungary can make SMEs in Hungary risk less, therefore, they might not apply risky innovative actions. In this regard, they can have better financial performance and manage risks more effectively.

Financial literacy has crucial importance for the financial risk management, performance, and competitiveness of SMEs. Thus, educational courses that increase the awareness and knowledge of firm executives might provide solutions to reduce the financial concerns of SMEs. Even if they are newly established, firms having educated executives might become more capable of overcoming potential financial problems. By getting such information, executives can also know how to find suitable financing options for their companies. On the other hand, lacking managerial experience can cause SMEs to perceive financial issues more intensively and face difficulties to find effective solutions for them. Therefore, students in business, entrepreneurship, economy, international trade, and similar departments need to be supported by training that increases the responsibility of these students in a practical manner. Although governments stimulate collaboration between universities and businesses to provide training for students, the time that students spend in such organizations might be increased (Wach & Bilan, 2021).

On the other hand, the stability in the legal environment (Stefko *et al.*, 2021) and the quality of the institutional environment are very crucial for the development of some industries (Stefko *et al.*, 2022d). In this regard, the costs of borrowing for innovative initiatives and R&D activities can be reduced by the regulations of governments to increase the innovativeness of competitive industries or some sectors that have imperfect competition causing limited financing options (Stefko *et al.*, 2018). Governments can also provide some VAT exemptions or corporate tax exemptions for financial institutions that stimulate the innovative posture of SMEs. On the other hand, governments can impose sanctions to protect intellectual property that is guarantee of creative and innovative ideas of SMEs. Because patents, trademarks, and copyrights are costly for SMEs, policymakers can also give some subsidies or incentives to SMEs to protect their intellectual property at lower costs. These incentives also motivate both managers and

workers of SMEs (Stefko *et al.*, 2017). If these targets are achieved, SMEs might become more competitive and innovative to overcome bankruptcy risk, financial risk, and performance issues.

## CONCLUSIONS

Since most SMEs have higher financial risks than their larger rivals, their main problem is access to bank funding. To overcome this issue, their perception of financial risk and their entrepreneurial capabilities might provide solutions. But depending on the countries where SMEs are located, these abilities and perceptions might differ. In this regard, this article aimed to find whether the effects of innovative and competitive attitudes of SMEs on their perceptions regarding financial risk differ depending on the countries where they operate or not. Thus, the research team created an online survey and 1221 SMEs from the Czech Republic, Slovakia, and Hungary took the survey. Moreover, this study investigated whether there was a positive or negative association between innovativeness, competitiveness, bankruptcy, financial performance, and financial risk management. To achieve the research aim, the researchers performed Ordinal Logistic Regression analyses in the SPSS statistical program.

According to the results, this research did not find negative associations between innovativeness, competitiveness and bankruptcy. Moreover, positive relationships between innovativeness, competitiveness, financial performance and financial risk management did not emerge. Thus, this research failed to support all research hypotheses. On the other hand, this study confirmed the similarities among Czech, Slovak, and Hungarian SMEs regarding the impact of innovativeness on their bankruptcy concerns and the impact of competitiveness on their financial performance and financial risk management. Having similar socio-economic conditions in those markets might be the reason for those similarities among SMEs. However, this research also proved the differences between SMEs from the Czech Republic, Slovakia, and Hungary corresponding to the influences of competitiveness on their bankruptcy concerns and innovativeness on their financial performance and financial risk management. The differences among those SMEs might stem from the number of insolvencies, political risk, competition, and cultural differences in those various markets. The developments in the financial literacy of company executives and their managerial experiences and the improvements in credit access conditions, intellectual property rights, and tax legislation can make SMEs reduce their concerns about their financial risks. Thus, policymakers' implementations are crucial to providing equal opportunities for SMEs even if they operate in various markets.

Although this study analysed SMEs from various countries and with various financial perspectives, it has some limitations. One of the limitations of this article is the lack of data that consists of financial statements. Moreover, this study analysed only the financial conditions of SMEs from their evaluation. This study also investigated SMEs from only some European countries and focuses on only some entrepreneurial characteristics. To overcome those limitations, new research should include some indicators from the financial statement of SMEs. By doing so, it would focus not only on the self-evaluation of the financial conditions of SMEs or their executives. The SMEs from other European countries can also be analysed to indicate more variations in this specific topic. Other components of entrepreneurial orientation such as proactiveness, risk-taking, and autonomy can also be examined by further studies to clarify the effects of more entrepreneurial abilities on the financial conditions of SMEs.

## REFERENCES

- Abdimomynova, A., Duzelbayeva, G., Berikbolova, U. Kim, V., & Baimakhanova, A. (2021). Entrepreneurship Education Prospects in The Public-Private Partnership System. *Montenegrin Journal of Economics*, 17(2), 83-92. <https://doi.org/10.14254/1800-5845/2021.17-2.7>
- Abdulrab, M., Alwaheeb, M.A., Al-Mamary, Y. H., Alshammari, N.G., Balhareth, H., Soltane, H.B., & Saleem, I. (2020). Effect of entrepreneurial orientation and strategic orientations on financial and nonfinancial performance of small and medium enterprises in Saudi Arabia. *Journal of Public Affairs*, 22(2), e2305. <https://doi.org/10.1002/pa.2305>



- Abu Salma, A.J., Prasolov, V., Glazkova, I., Rogulin, R. (2021). The Impact of Business Processes on the Efficiency of Small and Medium-Sized Enterprises. *Montenegrin Journal of Economics*, 17(3), 131-143. <https://doi.org/10.14254/1800-5845/2021.17-3.11>
- Aftab, J., Veneziani, M., Sarwar, H., & Ishaq, M.I. (2022). Entrepreneurial orientation, entrepreneurial competencies, innovation, and performances in SMEs of Pakistan: Moderating role of social ties. *Business Ethics, the Environment & Responsibility*, 31(2), 419-437. <https://doi.org/10.1111/beer.12415>
- Anwar, M., & Shah, S.Z.A. (2021). Entrepreneurial orientation and generic competitive strategies for emerging SMEs: Financial and nonfinancial performance perspective. *Journal of Public Affairs*, 21(1), e2125. <https://doi.org/10.1002/pa.2125>
- Bai, Q., & Tian, S. (2020). Innovate or die: Corporate innovation and bankruptcy forecasts. *Journal of Empirical Finance*, 59, 88-108. <https://doi.org/10.1016/j.jempfin.2020.09.002>
- Bartolacci, F., Cardoni, A., Łasak, P., & Sadkowski, W. (2022). An analytical framework for strategic alliance formation between a cooperative bank and a fintech start-up: An Italian case study. *Journal of Entrepreneurship, Management, and Innovation*, 18(4), 115-156. <https://doi.org/10.7341/20221844>
- Bič, M. (2022). Development of the Bankruptcy in Slovakia and the Czech Republic. *International Journal of Entrepreneurial Knowledge*, 10(1), 65-79. <https://doi.org/10.37335/ijek.v10i1.140>
- Bigliardi, B. (2013). The effect of innovation on financial performance: A research study involving SMEs. *Innovation*, 15(2), 245-255. <https://doi.org/10.5172/impp.2013.15.2.245>
- Campbell, J.Y., Hilscher, J., & Szilagyi, J. (2008). In search of distress risk. *The Journal of Finance*, 63(6), 2899-2939.
- Civelek, M., & Krajčík, V. (2022). How do SMEs from different countries perceive export impediments depending on their firm-level characteristics? System approach. *Oeconomia Copernicana*, 13(1), 55-78. <https://doi.org/10.24136/oc.2022.002>
- Civelek, M., Ključnikov, A., Vavrečka, V., & Gajdka, K. (2020a). The usage of technology enabled marketing tools by SMEs and their bankruptcy concerns: Evidence from Visegrad countries. *Acta Montanistica Slovaca*, 25(3), 263-273. <https://doi.org/10.46544/AMS.v25i3.01>
- Civelek, M., Gajdka, K., Světlík, J., & Vavrečka, V. (2020b). Differences in the usage of online marketing and social media tools: Evidence from Czech, Slovakian and Hungarian SMEs. *Equilibrium. Quarterly Journal of Economics and Economic Policy*, 15(3), 537-563. <https://doi.org/10.24136/eq.2020.024>
- Civelek, M., Ključnikov, A., Fialova, V., Folvarčňá, A., & Stoch, M. (2021). How innovativeness of family-owned SMEs differ depending on their characteristics?. *Equilibrium. Quarterly Journal of Economics and Economic Policy*, 16(2), 413-428. <https://doi.org/10.24136/eq.2021.015>
- Csapi, V., & Balogh, V. (2020). A financial performance-based assessment of SMEs' competitiveness – An analysis of Hungarian and US small businesses. *Problems and Perspectives in Management*, 18(3), 452. [https://doi.org/10.21511/ppm.18\(3\).2020.37](https://doi.org/10.21511/ppm.18(3).2020.37)
- de Araújo Lima, P.F., Marcelino-Sadaba, S., & Verbano, C. (2021). Successful implementation of project risk management in small and medium enterprises: A cross-case analysis. *International Journal of Managing Projects in Business*, 14(4), 1023-1045. <https://doi.org/10.1108/IJMPB-06-2020-0203>
- Deku, W.A., Wang, J., Danquah, E., & Narain, D. (2021). Correlation between business innovation environment (BIE) and entrepreneurial orientation dimension (EOD) on financial performance of manufacturing SMEs in Ghana. *World Journal of Entrepreneurship, Management and Sustainable Development*, 17(4), 787-803. <https://doi.org/10.1108/WJEMSD-09-2020-0117>
- Donkor, J., Donkor, G.N.A., Kankam-Kwarteng, C., & Aidoo, E. (2018). Innovative capability, strategic goals and financial performance of SMEs in Ghana. *Asia Pacific Journal of Innovation and Entrepreneurship*, 12(2), 238-254. <https://doi.org/10.1108/APJIE-10-2017-0033>
- Dvorsky, J., Klietnik, T., Cepel, M., & Strnad, Z. (2020). The influence of some factors of competitiveness on business risks. *Journal of Business Economics and Management*, 21(5), 1451-1465. <https://doi.org/10.3846/jbem.2020.13440>
- Eisdorfer, A., & Hsu, P. H. (2011). Innovate to survive: The effect of technology competition on corporate bankruptcy. *Financial Management*, 40(4), 1087-1117. <https://doi.org/10.1111/j.1755-053X.2011.01172.x>
- Halaskova, R., Halaskova, M., Gavurova, B. & Kocisova, K. (2022). The Local Governments Efficiency in the EU Countries: Evaluation by Using the Data Envelopment Analysis. *Montenegrin Journal of Economics*, 18(1), 127-137. <https://doi.org/10.14254/1800-5845/2022.18-1.10>

- Hofstede Insights. (n.d.). *Compare countries*. Retrieved from <https://www.hofstede-insights.com/fi/product/compare-countries/> on May 5, 2022.
- Hofstede, G., Hofstede, G. J., & Minkov, M. (2010). *Cultures and organizations: Software of the mind-intercultural cooperation and its importance for survival*. McGraw-Hill.
- Jalali, A., Jaafar, M., & Thurasamy, R. (2013). Influence of entrepreneurial orientation on the financial performance: Evidence from SMEs in Iran. *Middle East Journal of Management*, 1(2), 168-185.
- Karadağ, H. (2018). Cash, receivables and inventory management practices in small enterprises: Their associations with financial performance and competitiveness. *Small Enterprise Research*, 25(1), 69-89. <https://doi.org/10.1080/13215906.2018.1428912>
- Karas, M., & Režňáková, M. (2021). The role of financial constraint factors in predicting SME default. *Equilibrium. Quarterly Journal of Economics and Economic Policy*, 16(4), 859-883. <https://doi.org/10.24136/eq.2021.032>
- Khan, K.A., Dankiewicz, R., Kliuchnikava, Y., & Oláh, J. (2020). How do entrepreneurs feel bankruptcy?. *International Journal of Entrepreneurial Knowledge*, 8(1), 89-101. <https://doi.org/10.37335/ijek.v8i1.103>
- Kliuchnikava, Y. (2022). The Impact of the Pandemic on Attitude to Innovations of SMEs in the Czech Republic. *International Journal of Entrepreneurial Knowledge*, 10(1), 34-45. <https://doi.org/10.37335/ijek.v10i1.131>
- Ključníkov, A., Civelek, M., Fialova, V., & Folvarčna, A. (2021). Organizational, local, and global innovativeness of family-owned SMEs depending on firm-individual level characteristics: Evidence from the Czech Republic. *Equilibrium. Quarterly Journal of Economics and Economic Policy*, 16(1), 169-184. <https://doi.org/10.24136/eq.2021.006>
- Ključníkov, A., Civelek, M., Klimeš, C., & Farana, R. (2022). Export risk perceptions of SMEs in selected Visegrad countries. *Equilibrium. Quarterly Journal of Economics and Economic Policy*, 17(1), 173-190. <https://doi.org/10.24136/eq.2022.007>
- Ključníkov, A., Civelek, M., Polach, J., Mikolas, Z., & Banot, M. (2020a). How do security and benefits instill trustworthiness of a digital local currency?. *Oeconomia Copernicana*, 11(3), 433-465. <https://doi.org/10.24136/oc.2020.018>
- Ključníkov, A., Civelek, M., Vozňakova, I., & Krajčık, V. (2020b). Can discounts expand local and digital currency awareness of individuals depending on their characteristics?. *Oeconomia Copernicana*, 11(2), 239-266. <https://doi.org/10.24136/oc.2020.010>
- Ključníkov, A., Civelek, M., Cera, G., Mezulanık, J., & Maňak, R. (2020c). Differences in entrepreneurial orientation (EO) of SMEs in the international context: Evidence from the Czech Republic and Turkey. *Engineering Economics*, 31(3), 345-357. <https://doi.org/10.5755/j01.ee.31.3.23933>
- Kocisova, K., Gavurova, B., & Behun, M. (2018). The evaluation of stability of Czech and Slovak banks. *Oeconomia Copernicana*, 9(2), 205-223. <https://doi.org/10.24136/oc.2018.011>
- Kotaskova, A., Lazanyi, K., Amoah, J., & Belas, J. (2020). Financial risk management in the V4 Countries' SME segment. *Investment Management and Financial Innovations*, 17(4), 228-240. [https://doi.org/10.21511/imfi.17\(4\).2020.21](https://doi.org/10.21511/imfi.17(4).2020.21)
- Kreiser, P.M., Marino, L.D., Kuratko, D.F., & Weaver, K.M. (2013). Disaggregating entrepreneurial orientation: The non-linear impact of innovativeness, proactiveness and risk-taking on SME performance. *Small Business Economics*, 40(2), 273-291. <https://doi.org/10.1007/s11187-012-9460-x>
- Kusa, R. (2020). Linking relational capabilities and entrepreneurial orientation of an organization. *International Entrepreneurship Review*, 6(3), 49-60. <https://doi.org/10.15678/IER.2020.0603.04>
- Kücher, A., Mayr, S., Mitter, C., Duller, C., & Feldbauer-Durstmüller, B. (2018). Firm age dynamics and causes of corporate bankruptcy: Age dependent explanations for business failure. *Review of Managerial Science*, 14(3), 633-661. <https://doi.org/10.1007/s11846-018-0303-2>
- Lewandowska, A. (2021). Interactions between investments in innovation and SME competitiveness in the peripheral regions. *Journal of International Studies*, 14(1), 285-307. doi:10.14254/2071-8330.2021/14-1/20
- Li, Z., Anaba, O.A., Ma, Z., & Li, M. (2021). Ghanaian SMEs amidst the COVID-19 pandemic: Evaluating the influence of entrepreneurial orientation. *Sustainability*, 13(3), 1131. <https://doi.org/10.3390/su13031131>
- Lindman, M., Scozzi, B., & Otero-Neira, C. (2008). Low-tech, small-and medium-sized enterprises and the practice of new product development: An international comparison. *European Business Review*, 20(1), 51-72. <https://doi.org/10.1108/09555340810843690>

- Liu, F., Fang, M., Park, K., & Chen, X. (2021). Supply chain finance, performance and risk: How do SMEs adjust their buyer-supplier relationship for competitiveness?. *Journal of Competitiveness*, 13(4), 78-95. <https://doi.org/10.7441/joc.2021.04.05>
- López Salazar, A., Contreras Soto, R., & Espinosa Mosqueda, R. (2012). The impact of financial decisions and strategy on small business competitiveness. *Global Journal of Business Research*, 6(2), 93-103.
- Martínez-Román, J.A., Gamero, J., de Loreto Delgado-González, M., & Tamayo, J.A. (2019). Innovativeness and internationalization in SMEs: An empirical analysis in European countries. *Technological Forecasting and Social Change*, 148, 119716. <https://doi.org/10.1016/j.techfore.2019.119716>
- Mason, M.C., Floreani, J., Miani, S., Beltrame, F., & Cappelletto, R. (2015). Understanding the impact of entrepreneurial orientation on SMEs' performance. The role of the financing structure. *Procedia Economics and Finance*, 23, 1649-1661. [https://doi.org/10.1016/S2212-5671\(15\)00470-0](https://doi.org/10.1016/S2212-5671(15)00470-0)
- Oláh, J., Virglerova, Z., Popp, J., Klietkova, J., & Kovács, S. (2019). The assessment of non-financial risk sources of SMES in the V4 countries and Serbia. *Sustainability*, 11(17), 4806. <https://doi.org/10.3390/su11174806>
- Olalere, O.E., Islam, M.A., Yusoff, W.S., Ariffin, K.H.K., & Kamruzzaman, M. (2021). The moderating role of financial innovation on financial risks, business risk and firm value nexus: Empirical evidence from Nigeria. In *AIP Conference Proceedings*, 2339(1). AIP Publishing LLC. <https://doi.org/10.1063/5.0045082>
- Pereira-Moliner, J., López-Gamero, M.D., Font, X., Molina-Azorín, J.F., Tarí, J.J. & Pertusa-Ortega, E.M. (2021). Sustainability, Competitive Advantages and Performance in the Hotel Industry: A Synergistic Relationship. *Journal of Tourism and Services*, 23(12), 132-149. <https://doi.org/10.29036/jots.v12i23.282>
- Pini, M., Tchorek, G. (2022). Comparative analysis of export determinants in Italian and Polish firms: The moderating role of non-family management. *Journal of Entrepreneurship, Management and Innovation*, 18(2), 41-67. <https://doi.org/10.7341/20221822>
- PRS Group. (2020). *Political Risk Index*. Retrieved from <https://www.prsgroup.com/regional-political-risk-index/> on 5 May 2022.
- Roshchuk, I., Oliinyk, O., Mishchuk, H., & Bilan, Y. (2022). IT Products, E-Commerce, and Growth: Analysis of Links in Emerging Market. *Transformations in Business & Economics*, 21(1), 209-227.
- Šebestová, J., Feijie, W., Luyan, Z., & Pokorná, P. (2020). Small business sustainability and regional development: lessons learnt from sectoral changes in China and the Czech Republic. *Forum Scientiae Oeconomia*, 8(3), 5-30. [https://doi.org/10.23762/FSO\\_VOL8\\_NO3\\_1](https://doi.org/10.23762/FSO_VOL8_NO3_1)
- Statista. (2021). *The number of business insolvencies*. Retrieved from <https://www.statista.com/statistics/1116430/number-business-insolvencies-country/> on 5 May 2022.
- Stefko, R., Bacik, R., Fedorko, R., & Olearova, M. (2022a). Gender-generation characteristic in relation to the customer behavior and purchasing process in terms of mobile marketing. *Oeconomia Copernicana*, 13(1), 181-223. <https://doi.org/10.24136/oc.2022.006>
- Stefko, R., Džuka, J., & Lačný, M. (2022b). Psychological Factors of Tourist Expenditure: Neglected or Negligible?. *Frontiers in Psychology*, 13. <https://doi.org/10.3389/fpsyg.2022.942252>
- Stefko, R., Džuka, J., & Lačný, M. (2022c). Factors influencing intention to go on a summer holiday during the peak and remission of the Covid-19 Pandemic. *Ekonomický časopis (Journal of Economics)*, 70(2), 144-170.
- Stefko, R., Heckova, J., Gavurova, B., Valentiny, T., Chapcakova, A., & Ratnayake Kascakova, D. (2022d). An analysis of the impact of economic context of selected determinants of cross-border mergers and acquisitions in the EU. *Economic Research-Ekonomska Istraživanja*, 1-18. <https://doi.org/10.1080/1331677X.2022.2048200>
- Stefko, R., Fedorko, R., Svetozarovová, N., & Nastišin, Ľ. (2021). Start-up management and the relationship between the level of awareness among potential young entrepreneurs and the motivation to start own business. *Quality-Access to Success*, 22(183), 86-90.
- Stefko, R., Fedorko, R., Bacik, R., Rigelsky, M. & Olearova, M. (2020a). Effect of service quality assessment on perception of TOP hotels in terms of sentiment polarity in the Visegrad group countries. *Oeconomia Copernicana*. 11(4), 721-742. <https://doi.org/10.24136/oc.2020.029>
- Stefko, R., Jenčová, S. & Vašaničová, P. (2020b). The Slovak Spa Industry and Spa Companies: Financial and Economic Situation. *Journal of Tourism and Services*, 20(11), 28-43. <https://doi.org/10.29036/jots.v11i20.137>
- Stefko, R., Jencova, S., Vsanicova, P., & Litavcova, E. (2019). An Evaluation of Financial Health in the Electrical Engineering Industry. *Journal of Competitiveness*, 11(4), 144-160. <https://doi.org/10.7441/joc.2019.04.10>

- Stefko, R., Gavurova, B., & Kocisova, K. (2018). Healthcare efficiency assessment using DEA analysis in the Slovak Republic. *Health Economics Review*, 8(1), 1-12. <https://doi.org/10.1186/s13561-018-0191-9>
- Stefko, R., Bačík, R., Fedorko, R., Horváth, J., Propper, M., & Gavurova, B. (2017). Gender differences in the case of work satisfaction and motivation. *Polish Journal of Management Studies*, 16(1), 215-225. <https://doi.org/10.17512/pjms.2017.16.1.18>
- Straková, J., Talíř, M., & Váchal, J. (2022). Opportunities and threats of digital transformation of business models in SMEs. *Economics and Sociology*, 15(3), 159- 171. doi:10.14254/2071-789X.2022/15-3/9
- Teja Kusuma, G. A., Setia Sapta, I. K., Dauh Wijana, I. M., Paulus Tahu, G., & Putu Indiani, N. L. . (2022). Building SMEs' passion for utilising digital media: a study of SMEs during the COVID-19 pandemic. *Forum Scientiae Oeconomia*, 10(3), 151-168. [https://doi.org/10.23762/FSO\\_VOL10\\_NO3\\_8](https://doi.org/10.23762/FSO_VOL10_NO3_8)
- Toulová, M., Tuzová, M., & Straka, J. (2016). The aspects of managing risks in connection with the internationalization of SMEs from selected Central European countries. *Acta Univ. Agric. Silvic. Mendel. Brun*, 64, 1775-1784. <https://doi.org/10.11118/actaun201664051775>
- Trading Economics (n.d.). *Competitiveness Index*. Retrieved from <https://tradingeconomics.com/country-list/competitiveness-index> on 5 May 2022.
- Ulubeyli, S., Kazaz, A., & Sahin, S. (2018). Survival of construction SMEs in macroeconomic crises: Innovation-based competitive strategies. *Journal of Engineering, Design and Technology*, 16(4), 654-673. <https://doi.org/10.1108/JEDT-03-2018-0057>
- Virglerová, Z., Belás, J., Kurzėpa-Dedo, K., Krulický, T. (2021). Perceiving of legal risk and the role of public sector in SMEs of V4 countries. *Administratie si Management Public*, 36, 181-195. <https://doi.org/10.24818/amp/2021.36-11>
- Yang, S., Ishtiaq, M., & Anwar, M. (2018). Enterprise risk management practices and firm performance, the mediating role of competitive advantage and the moderating role of financial literacy. *Journal of Risk and Financial Management*, 11(3), 35. <https://doi.org/10.3390/jrfm11030035>
- Zadeh, F. G. (2022). Entrepreneurship and SMEs under COVID-19 crisis: A literature review. *International Entrepreneurship Review*, 8(3), 23-35. <https://doi.org/10.15678/IER.2022.0803.02>
- Zhang, D., Zhuge, L., & Freeman, R.B. (2020). Firm dynamics of hi-tech start-ups: Does innovation matter?. *China Economic Review*, 59, 101370. <https://doi.org/10.1016/j.chieco.2019.101370>
- Wach, K., Bilan, S. (2021). Public support and administration barriers towards entrepreneurial intentions of students in Poland. *Administratie si Management Public*, 36, 67-80. <https://doi.org/10.24818/amp/2021.36-04>


### Authors

The contribution share of authors is as follows 40% for Mehmet Civelek, 15% for Lukáš Durda, 15% for Zuzana Vincúrová, 15% for Tomáš Dudáš, 15% for Ivan Brezina. MC – conceptualisation, literature writing, methodology, calculations, discussion. LD – conceptualisation, methodology. ZV conceptualisation, data processing. TD – reviewing and conclusion. IB – reviewing, methodology.

#### Mehmet Civelek

Senior Researcher at European Centre for Business Research, Pan-European University (Czech Republic). PhD in Finance (2019, Tomas Bata University in Zlin, Czech Republic). His research interests include Credit Risk Management in SMEs, entrepreneurship, and marketing.


**Correspondence to:** Dr Mehmet Civelek, Spálená 76/14, 110 00 Prague, Czech Republic, e-mail: [m\\_civelek@windowslive.com](mailto:m_civelek@windowslive.com)

**ORCID**  <http://orcid.org/0000-0002-1247-5308>

#### Lukáš Durda

Assistant professor at Pan-European University (Czech Republic). PhD in International Entrepreneurship (2019, Pan-European University, Slovakia). His research interests include tourism, business, and management.


**Correspondence to:** Dr Lukáš Durda, Spálená 76/14, 110 00 Prague, Czech Republic, e-mail: [lukas.durda@vspp.cz](mailto:lukas.durda@vspp.cz)

**ORCID**  <http://orcid.org/0000-0001-5979-9855>

**Zuzana Vincúrová**

Associate Professor at Pan-European University (Slovakia). Her research interests include Economics, Financial analysis, and Corporate finance.


**Correspondence to:** Doc. Dr. Zuzana Vincúrová, Tomášikova 20, 821 02 Bratislava, Slovakia, e-mail: zuzana.vincurova@paneurouni.com

**ORCID**  <http://orcid.org/0000-0002-6490-2367>

**Tomáš Dudáš**

Associate Professor at Pan-European University (Slovakia). His research interests include Foreign Direct Investments, International economics and finance.


**Correspondence to:** Doc. Dr. Tomáš Dudáš, Tomášikova 20, 821 02 Bratislava, Slovakia, e-mail: tomas.dudas@paneurouni.com

**ORCID**  <http://orcid.org/0000-0001-8931-8987>

**Ivan Brezina**

Assistant professor at Pan-European University (Slovakia). His research interests include Economic theory, Macroeconomics and Microeconomics.

**Correspondence to:** Mr. Ivan Brezina, Tomášikova 20, 821 02 Bratislava, Slovakia, e-mail: brezina.ivan@yahoo.com

**ORCID**  <http://orcid.org/0000-0002-8158-7805>

**Conflict of Interest**

The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

**Copyright and License**

This article is published under the terms of the Creative Commons Attribution – NoDerivs (CC BY-ND 4.0) License  
<http://creativecommons.org/licenses/by-nd/4.0/>

Published by Cracow University of Economics – Krakow, Poland



Ministry of Education and Science  
Republic of Poland

The journal is co-financed in the years 2022-2024 by the Ministry of Education and Science of the Republic of Poland in the framework of the ministerial programme “Development of Scientific Journals” (RCN) on the basis of contract no. RCN/SP/0583/2021/1 concluded on 13 October 2022 and being in force until 13 October 2024.

# Material well-being as sustainable consumption driver: Results of European studies

Dario Dunković, Blaženka Knežević, Barbara Borusiak

## ABSTRACT

**Objective:** The objective of the article is to examine the causality between material well-being indicators of all the EU-27 countries and sustainable consumption behaviour indicators of the corresponding consumers. The authors assumed that the material well-being construct is determined by net income and actual individual consumption variables. In contrast, the sustainable consumption construct captures five selected behavioural variables.

**Research Design & Methods:** The hypothesis was that material well-being significantly determines sustainable practices in European countries. The research model was tested by structural equation modelling (SEM) using path coefficients and developed construct predictors. Two sets of statistical data were used. The first was data on material well-being from Eurostat 2019, and the second was a public opinion poll covering the EU-27 countries as stated in the 2019 'Special Eurobarometer 501.'

**Findings:** Consumers in countries with lower material well-being indicators had a lower capacity for implementing consumers' sustainable practices.

**Implications & Recommendations:** The reported causality is essential for policy decision-makers to regulate measures more reliably according to specific countries and distribute scarce resources relevant to their sustainable consumer practices capability.

**Contribution & Value Added:** The article contributes to the sustainable consumption theory by developing new theoretical construction that combines the different sustainability featured variables. Introducing policy measures for sustainable consumer behaviour, which simultaneously require sacrifice, will depend on consumer income and the ability to meet the costs of environmentally friendly activities.

**Article type:** research article

**Keywords:** sustainable consumption; material well-being; consumers; sustainable practices; Eurobarometer

**JEL codes:** E21, Q56

Received: 19 August 2022

Revised: 16 December 2022

Accepted: 16 December 2022

## Suggested citation:

Dunković, D., Knežević, B., & Borusiak, B. (2023). Material well-being as sustainable consumption driver: Results of European studies. *Entrepreneurial Business and Economics Review*, 10(4), 125-141. <https://doi.org/10.15678/EBER.2022.100408>

## INTRODUCTION

Struggling for sustainability has been supported by political (e.g., European Green Deal, Circular Economy Action Plan) and voluntary initiatives (e.g., Fairtrade, Forest Stewardship Council) that seek to change the current ecological footprint affected by negative consequences of consumer habits, not promising long-term existence (Zysk, 2020). The European Union has several policies relevant to consumers' sustainable choices. Studies on the impacts of consumption on the environment show that environmentally friendly choices poorly saturate the market (Šajin, 2020). The European Union leadership, with its sustainability policy, regulates and creates new rules and opportunities for consumers to change their consumption patterns to be more environmentally friendly. Not all countries can achieve sustainable consumption goals equally, effectively, and quickly.

The latest survey of consumer attitudes on different aspects of sustainability in the European Union shows significant differences between the Member States. Only 12% of Hungarians and 20% of Croatians have bought products marked with an environmental label in the past six months, while 65% of Swedes have done so (EC, 2020). The lagging countries are trying to catch up with the more developed ones. The presumption is to prove that the level of material well-being of consumers is a significant enabler for achieving better effectiveness of sustainable consumption policy implementation at the national level. Policymakers allocate resources to raise the country on the ranking scale, but the material capabilities of the population limit these efforts.

Consumer purchasing power, signalled by real household expenditures, and determined by their household income per capita, limit the practice of sustainable consumption that requires more valuable resources (e.g., consuming pesticide-free organic food, purchasing electric vehicles) so that consumers in less developed countries cannot afford all that is needed to effectively implement the national sustainability policy and the disparity of income distribution in the European Union (Pilelienė & Tamulienė, 2021). Research needs to include more on the impact of household income on sustainable consumption as well as the disparity of income distribution in the European Union (Duarte *et al.*, 2021). There are disparities in income and lifestyle within and among countries which is the starting point for each country in achieving its sustainability goals (Filauro & Parolin, 2018). These identified discrepancies motivated the authors of this article to examine the econometric causality between the two combined sets of data. One set of data represents material well-being, while the second set consists of indicators related to sustainable consumption. Material well-being is assumed to be one of the causes of poor performance and below-average indicators of sustainable consumption practices, mainly in CEE countries. A confirmatory factor analysis method using SPSS AMOS was used to identify causation.

The article is organised as follows: a literature review and hypothesis development will be presented in the second section. The methodology will be explained in the third chapter. Empirical findings and a discussion of the results will be discussed in the fourth section. Finally, the last part will cover policy implications, study limitations, and further research potential.

## LITERATURE REVIEW AND HYPOTHESIS DEVELOPMENT

According to the neoclassical economics paradigm, people's needs are unlimited and insatiable, and humans always choose alternatives to maximise their well-being (Guillen-Royo & Wilhite, 2015). It is a broad and complex construct, generally describing the quality-of-life satisfaction level, both from an objective perspective (measured by economic growth, for instance) and a subjective one (expressed by a self-reported feeling of happiness). Therefore, it consists of both material and non-material components. However, it must be stressed that material well-being is widely recognised as a critical determinant of overall well-being (Ferriss, 2002). For this reason, in most countries worldwide, individuals strive to increase their material well-being, closely related to their consumption level. But the more people consume, the higher their material well-being becomes, and consequently, the more products are delivered to the global market, the higher carbon footprint emission it causes (Duarte, Miranda-Buetas, & Sarasa, 2021; Šubova, 2022). That is potentially more harmful to the environment and finally presents a more significant threat of climate catastrophe for the entire civilisation. On the other hand, the higher the level of material well-being, the more other aspects of life, like clean air and a restored natural environment, become important issues for wealthy societies in the future. A key to such a future is the rejection of personal consumption beyond what is needed to fulfil a 'good life,' as stated by Kates, Parris, and Leiserowitz (2005).

Sustainability is a normative mechanism, and according to Baumgärtner and Quaas (2010), it represents how people behave and relate to nature and how responsible they are to each other for future generations. Kates, Parris, and Leiserowitz (2005) argue that many scholars and practitioners have made massive interdisciplinary efforts and developed hundreds of indicators to measure sustainability dedicated to nature, the environment, economic development, or the human condition (Potoczak, 2021). The authors of this article listed essential factors to be sustained in the long term: reducing toxic

emissions, energy, and healthy foods. These three factors served as a guideline for selecting sustainability factors in designing the research framework.

Many articles have already contributed to developing the theory of sustainable consumption, but additional research still needs to be carried out. It is crucial to analyse the relationships between individual variables and constructs to predict which ones have the power to influence sustainability (Tam & Chan, 2018; Krepl *et al.*, 2020; Makarenko *et al.*, 2022). The connection between sustainability and country development has always been uneasy (O’Riordan *et al.*, 2020; Chovancová & Tej, 2020; Sulyova & Kubina, 2022). In a recent article, by using the clustering method, Ulman *et al.* (2021) show how development patterns in the European context strengthen capacities to achieve sustainable goals. The authors determine two components, human well-being and economic well-being, to test their relation to environmental well-being in EU countries. Their concept of economic well-being includes organic farming, savings, employment, and others. The result shows that the different level of well-being throughout the EU reflects sustainability as a function of environmental well-being. Most developed countries such as Austria, Belgium, and Finland significantly improved environmental well-being in 2019 – unlike in 2006 – compared to the less developed Romania, Poland, and Croatia (Androniceanu, A.-M. *et al.*, 2020). Rahman & Koszewska (2020) surveyed in Poland and conclude that pro-environmental behaviour is also a concern in other aspects of consumption, such as clothing.

We used official Eurostat statistics on net income and expenditure per capita to build a material well-being construct. Following the research call of Tam and Chan (2018), this article seeks to explain how material well-being elevates the sustainable consumption construct. In earlier research (Straughan & Roberts, 1999; Pagiaslis & Krontalis, 2014; Saari *et al.*, 2021), some mechanisms have already demonstrated the impact of consumer well-being on sustainable consumption. A previous study by Magazzino and Leogrande (2021) assessed the relationship between well-being and other constructs such as education, income, and social relationships. To this end, the researchers used the social well-being index as a levelled composite measure of happiness, referring to 21 regions in Italy.

Eurobarometer is a systematic instrument of the European Commission for surveying the population of the European Union, which has been carried out since 1974 to gather views on various social, political, and economic topics and issues. It can be used as a methodologically reliable data source for scientific research purposes (Aldrin, 2011). No similar survey has been cited so many times in such scientific works as Eurobarometer, the results of which are often reported in high-ranking journals. Kaase and Saris (1997) consider Eurobarometer a means of collecting data on population attitudes that can help create certain social groups prone to political initiatives of the European Union (*e.g.*, sustainable policy). Eurobarometer questionnaire is structured to process results as transnational for comparing data between countries. Google Scholar highlights the term ‘Eurobarometer’ in 218 peer-reviewed articles in 2021, while ScienceDirect specifies it as a keyword in 60 research articles in social sciences published in 2020.

Numerous studies have been conducted in the past on the relationship between material well-being, environmental concern, and pro-environmental behaviour, both at the societal and the individual level (Franzen, 2003; Egea & Garcia-de-Frutos, 2013; Richterová *et al.*, 2021; Ulman *et al.*, 2021). In general, it was proved that country wealth is positively related to mitigating climate change behaviour (Ortega-Egea, Garcia-de-Frutos, & Antolin-Lopez, 2014). One of the explanations for this fact comes from Inglehart’s (1997) theory. According to it, post-materialist environmental concerns leading to more sustainable consumption may appear as an indirect consequence of wealth mediated by post-materialist values, like self-expression and the quality of life. Another explanation is the prosperity/affluence hypothesis, which assumes a direct relationship between material well-being and environmental concern (Franzen & Meyer, 2009, Ortega-Egea *et al.*, 2014). Dynamic analysis was also applied to examine the relationship between economic well-being and pro-environmental attitudes and behaviour. It was discovered that environmental degradation also increases at the first stage of income growth. However, after a turning point, this degradation starts to decrease with an increase in income level. This effect, known as the inverted U-shaped environmental Kuznets curve, was confirmed in some studies (Shahbaz, Lean, & Shabbir, 2012). However, other research showed that the relationship between the abovementioned variables should be described with an N-shaped curve (Özokcu & Özdemir, 2017).



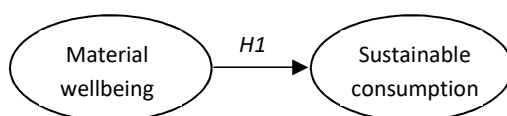
Several articles pioneered the operationalisation of theoretical environmental and sustainability constructs (Buttel & Johnson, 1977; Hines, Hungerford, & Tomera, 1987). Sustainable consumption research focuses on behaviours and attitudes in which the authors mainly use structural modelling to illustrate direct and indirect relationships between environmental constructs (Fraj-Andrés & Martínez-Salinas, 2007; Saari *et al.*, 2021). Consumers who care about environmental pollution problems (*i.e.*, environmentally friendly behaviour) mainly express this by choosing organic products and undertaking recycling activities (Minton & Rose, 1997).

The environmental impact on consumers can be direct or indirect. Following Stern's (2000) theory of environmentalism, consumers act directly on the environment when sorting waste for recycling, consuming organic food, or using solar energy for heating, thereby significantly changing the environment. The indirect impact of consumers on changes occurs when their actions or references affect others to change their behaviour (Firlej & Stanuch, 2022). Stern (2000) concludes that personal capabilities are an essential causal variable in the implementation of sustainability policy, including knowledge (smart choice), skills (comparison), and material capacities (money) to undertake certain activities in time. Individual contribution of the household is not enough, because positive changes can arise only through aggregate efforts when many undertake the same activities. Consumers who are convinced that their environmentally friendly behaviour is valuable will be further encouraged by their efforts if they see others doing the same, if not more. Income inequality and uneven personal consumption levels among the national markets of the European Union currently exist (Eurostat, 2021; Androniceanu, 2020). This signals that consumers have different material capacities when selecting and purchasing certain more expensive products and that lower-income consumers sacrifice more when buying products with higher prices. This could be why consumers in some markets can align their income and consumption with sustainable consumption guidelines more than in other national markets. The sustainable consumption scheme should ensure national prosperity so that all the resources consumed that impoverished the natural system can be returned ecologically. The Green Deal sustainability framework was offered to the Member States to implement it equally (EC, 2019).

A hypothesis and research model were set about the relationship between the two constructs where 'sustainable consumption' is contingent on 'material well-being.' Accordingly, we hypothesized the following:

**H1:** Consumers' material well-being is positively related to the sustainable consumption behaviour of Europeans.

The statistical significance of correlations is often used to assess the strength of such a relationship. The two constructs framework was examined by the path diagram method. Research data included secondary Eurostat statistics and Eurobarometer survey results. According to Mueller and Hancock (2019), it is appropriate to use structural equation modelling (SEM) to analyse such conceptions, because it can explain the simultaneous causality between the latent and observed variables. The research model was structured with two constructs, as illustrated in Figure 1.



**Figure 1. The research model**

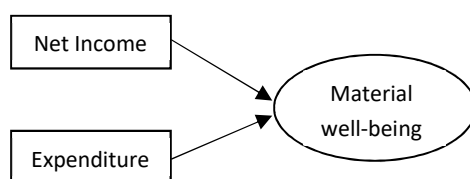
Source: own elaboration.

Applying the political concept of sustainability requires introducing new rules into consumer behaviour and nudging their habits around food and energy consumption and sustainable clothing while also considering sorting out waste as well. It is typical for food or electrical appliances that are top-ranked on an environmentally friendly scale (*e.g.*, organically produced milk, an 'A-class' freezer, or dryer) to have above-average prices compared to conventional products of similar functionality. To afford such more advanced products, consumers are required to set aside more disposable income.

### Material Well-being Conceptualisation

The concept of material well-being may be defined as the possibility of fulfilling the current material needs of consumers by achieving the intended standard of living. It covers aspects of consumer well-being or consumer material opportunities in the marketplace. Namely, Eurostat (2021) defines 'material well-being' as an individual standard of living expressed through three indicators: income, expenditures, and material conditions (*i.e.*, place of living). There are multiple conceptualisations of material well-being (Sirgy, 2018) that mainly include the financial situation, the adequacy of personal income, satisfaction with satisfying needs, and fulfilling wishes. This assumes the level of satisfaction with the possibility of obtaining the desired goods and services, as well as the desire to own valuable assets (Aliyev, 2022). If someone asked or encouraged consumers to buy more valuable things than they could afford, it would create frustration for consumers, because it is unlikely that they would opt for the purchase. Because in these cases well-being was a subjective estimate (*e.g.*, level of satisfaction) and each person judged their well-being, subjective impressions were not taken for the research model; instead, material data was used.

The research of Bruggen *et al.* (2017) shows that financial well-being has a strong and positive correlation with overall well-being, so revenue and expenditure variables can be viewed as aggregating nationally. Promoting well-being has become a central political goal for social and public policy (Taylor, 2011). Social policy is the study of human well-being. Dean (2005) argues that the advantage of well-being as a term is that it can turn our attention to the positive aspects of social policy instead of the negative aspects of social problems. Well-being should provide answers to questions of human meaning, happiness, personal experience, social recognition, and access to material goods and resources. In this research, 'material well-being' was treated as a measurement model predicted by 'net income' and 'expenditure' variables, as illustrated in Figure 2.



**Figure 2. Empirical variables composing the 'material well-being' measurement model**

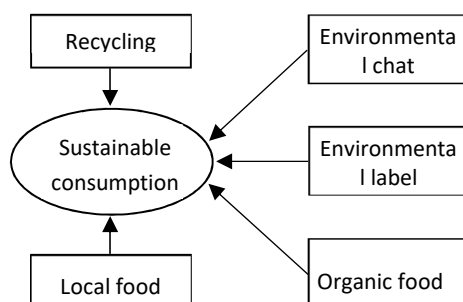
Source: own elaboration.

What consumers can afford depends on their net income and how much they spend. Suppose income is limited so that they have to spend less. In that case, they are unable to obtain more expensive goods and services that correspond to higher quality and more functional features (*i.e.*, an automatic change from petrol to electric cars). Hayo and Seifert (2003) confirmed individual income's positive and significant impact on personal well-being.

In statistical methodology, material well-being represents the volume of goods and services that households consume to satisfy their needs. Material well-being can also be referred to as economic welfare or economic well-being (Eurostat, 2012). It is common to take the gross domestic product (GDP) as a benchmark for national economic wealth and the GDP per capita to compare the material well-being of its residents. Although GDP is a good indicator of economic power, it is not a sufficiently precise measure of material well-being since material well-being is defined as the personal consumption of goods and services per household member – consumption that arises only to meet individual needs. To obtain as high a macroeconomic variable of material well-being per capita as possible, the most accurate statistical indicators that were related only to households were used for this study. According to Eurostat (2012), the best measure of material well-being is the actual individual consumption (AIC), which comprises expenditures on goods and services that households consume to satisfy their individual needs, including individual spending on public services.

### Sustainable consumption construct

'Sustainable' means a level and pattern of consumption that meets the current needs without compromising the possibility of future generations being able to meet their needs as well (Thøgersen, 2005). The European Green Deal aims to reduce people's negative impact on nature. This is only possible if changes are encouraged in their economic and social behaviour (EC, 2019), as the negative consequences of the current behaviour towards nature rise. At the behest of the European Commission, an opinion poll was conducted throughout all Member States to collect attitudes and behavioural data of residents towards the environment and the practice of the sustainability scheme. This is where aggregated data can be obtained on how the population (consumers) views activities encouraged by the sustainability policy (e.g., discussions about sustainability topics) and how much they practice it, if at all (e.g., recycling, consuming local, and organic food). Each of the five selected observed variables used in the research model as predictive variables is presented in Figure 3.



**Figure 3. Empirical variables composing the 'sustainable consumption' construct**

Source: own elaboration.

The corresponding labels are used to characterise each of the observable variables. The following section describes all variables related to the sustainable consumption construct.

### Environmental Label and Environmental Chat

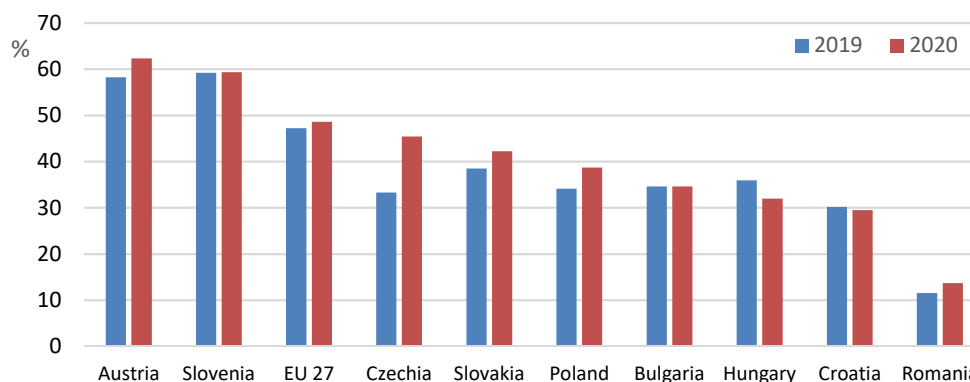
An environmental label is a pictogram to tackle customers about the effects of products before they start to consume them. Purchasing products marked with an environmental label (research variable labelled: 'environmental label') reveals consumers' preferences and lifestyles in terms of the protection of nature (e.g., the ozone layer consideration), the environment (e.g., biodegradability), and health (e.g., less carbon dioxide inhalation), but also reveals the product's material capabilities as it signals that they are more technologically advanced and innovative. In most cases, products whose properties are to meet the new standards include innovative production activities, thereby raising costs and the retail price. Environmental labelling facilitates and accelerates purchasing decisions for consumers prone to sustainable consumption (Stern, 2000). They are keen on different products featuring different functionalities, tastes, and appearances, considering them more favourable than conventional ones. Labelling is a marketing incentive to encourage consumers to change the market in this direction. Environmentally friendly labels indicate which products' production and consumption have an estimated less harmful impact on carbon footprint, greenhouse gas generation, and climate change. The greater the political drive towards sustainable consumption, the greater the presence of relevant labels on the market. Labelling is quite simple, however, it signals one complex mechanism that is not only related to ecology but also to the health of the population (e.g., nutrition, food safety) and social well-being.

The representation of environmental problems in everyday conversation reveals how much consumers are concerned about the topic, how much they care about the opinions of others, and how interested they are in promoting sustainability through their consumer habits and behaviour. Consumers can improve the practice of the overall mechanism by exchanging experiences and knowledge with each other. If consumers can participate in these activities and processes, they will also be more enthusiastic to talk about them. Discussing environmental issues with others (research variable labelled:

‘environmental chat’) signals the willingness and interest of consumers to engage in the process and also shows curiosity about the information in this area that other institutions or academic circles have addressed. It is difficult to assume that the goals set to face the problem of environmental pollution will be achieved if experiences, proposals, critical thinking, and knowledge are not exchanged. The proportion of consumers talking to others about this topic signals the issue’s relevance, as this increases the likelihood that they will encourage others to undertake sustainable activities (*e.g.*, recycling and energy-saving actions).

### Recycling Waste

Recycling is part of the European Union’s circular economy policy (EC, 2019). Examining whether consumers separate most of the waste for recycling (research variable labelled: ‘recycling’) reveals the share of consumers undertaking activities driven directly by the sustainable consumption goals in the national market. The European sustainability policy includes recycling the following items: electronic devices, batteries, vehicles, packaging, article, plastics, textiles, water, construction structures, and food waste. However, a recent European Commission survey (EC, 2020) shows that less developed countries lag in circular economy policy implementation (Figure 4).



**Figure 4. The recycling rate of municipal waste**

Source: Eurostat Browser, Tables on EU policy, online data code: CEI\_WM011.

Although all consumers have the discretion to decide how to behave and what lifestyle they will lead, their behaviour is expected to respond and contribute to the prevention of resource scarcity and environmental degradation (Thøgersen, 2005). Introducing recycling standards and other initiatives can support changes in consumer behaviour.

### Organic Food and Local Food

Sustainable consumption is part of the farm-to-fork (F2F) strategy that needs to contribute to the realisation of a circular society and economy. The European Green Deal aims to change how food is consumed (EC, 2019) and includes a sustainable products policy to support the circular design. The practice of organic food consumption (research variable labelled: ‘organic food’) promotes sustainable consumption of food, as well as the consumption of food products of local origin with low environmental impact. Recent research (Vandevijvere & Anderle, 2019) reveals how healthier organic food products raise the value of the retail assortment offered by increasing the price so that more organic food products are available in countries with higher incomes. Furthermore, they believe that the impact of higher organic food quality on the price increase mainly creates a negative effect on reshaping consumer habits to a circular economy.

Food produced in the local climate tastes better and fresher than food treated to preserve freshness since it is transported from remote locations (Simonetti, 2012). The nutritional properties of organic food are also better (*i.e.*, biodiverse food’s antioxidant content is higher than conventional food’s). The habit of consuming local food and drink has fewer negative impacts on gas emissions in general. The share of consumers who have bought local food products (research variable labelled: ‘lo-

cal food') agrees that these products are more suitable for their health, more controlled, and thus superior to food produced in other countries, which imposes proneness to a circular economy. Consumers are more confident in local food than global distribution flows (EC, 2020).

### RESEARCH METHODOLOGY

As the first part of the desk research, we analysed data sourced from the Eurostat tables covering material living conditions and standards in 2019 throughout the EU-27 Member States without exception. There are several topics that the Organisation for Economic Co-operation and Development (OECD; 2020) considers essential in assessing the well-being concept in terms of material living conditions (*e.g.*, housing, income, jobs) and quality of life (*e.g.*, community, education, environment, governance, health, life satisfaction, safety, and work-life balance). The OECD uses the statistical indicator Net adjusted disposable income as a part of the Better Life Index methodology intended to measure well-being. This index serves to help determine the living conditions and quality of life of the residents. This way, they can get more information when it comes to better engaging in tailoring the social policy that shapes their daily lives (OECD, 2020).

Disposable household net income per capita includes income from economic activity (*i.e.*, wages and salaries), property income, social benefits, and transfers and has several variants. One of the variants is the median equalised disposable net income per inhabitant which represents the population's median amount of money available per capita for spending on goods and/or services. It is a material measure of the national living standard (Eurostat, 2012).

**Table 1. Statistics on material living conditions and standards (2019, in PPS)**

Member State (EU-27)	Net income <sup>(1)</sup>	Expenditure <sup>(2)</sup>
Belgium	22.100	23.600
Bulgaria	8.371	12.100
Czechia	14.035	17.600
Denmark	22.371	23.800
Germany	22.693	25.200
Estonia	14.240	15.500
Ireland	19.775	19.600
Greece	9.765	15.900
Spain	16.171	18.700
France	20.471	22.500
Croatia	10.734	13.700
Italy	17.099	20.600
Cyprus	18.590	19.800
Latvia	11.031	14.600
Lithuania	11.509	19.000
Luxembourg	28.943	30.800
Hungary	9.360	13.800
Malta	18.588	17.700
The Netherlands	21.968	23.800
Austria	23.687	24.300
Poland	12.335	16.400
Portugal	11.602	17.700
Romania	7.338	16.100
Slovenia	16.633	17.000
Slovakia	10.503	14.200
Finland	20.362	23.000
Sweden	20.413	22.400

<sup>(1)</sup> Median equalised disposable net income per inhabitant. Eurostat online data code *ILC\_DI03*

<sup>(2)</sup> Actual individual consumption (AIC), real expenditure per capita. Eurostat online data code *PRC\_PPP\_IND*

Source: Eurostat Data Explorer.

While GDP is mainly an indicator of the level of economic activity, ‘actual individual consumption is an alternative indicator better adapted to describe the material welfare of households (Eurostat, 2012). Therefore, another aggregated statistical variable listed in Table 1 is the expenditure per capita expressed in PPS virtual currency. Eurostat statistics show that the average real expenditure per capita related to EU-28 was 21 800 PPS in 2019. Over the past several years, since 2012, it has raised steadily on average at the rate of 2.5%. Looking back to 2017, quite a similar trend is characterised by net income per capita. Both variables show a steady upward line; therefore, no indications of data disturbances prior to and in 2019.

**Table 2. Individual action in favour of sustainable consumption**

Member State (EU-27)	Recycling <sup>(1)</sup> [%]	Environment chat <sup>(2)</sup> [%]	Environmental label <sup>(3)</sup> [%]	Organic food <sup>(4)</sup> [%]	Local food <sup>(5)</sup> [%]
Belgium	70	33	18	23	41
Bulgaria	23	22	10	10	45
Czechia	69	18	20	10	34
Denmark	78	60	51	29	44
Germany	61	45	28	24	55
Estonia	59	29	19	15	53
Ireland	61	25	20	17	43
Greece	65	26	14	12	37
Spain	75	28	12	13	36
France	76	36	27	28	52
Croatia	56	23	20	10	36
Italy	60	20	13	9	31
Cyprus	68	31	20	26	52
Latvia	49	26	20	14	60
Lithuania	76	23	20	13	44
Luxembourg	76	43	32	26	53
Hungary	53	22	12	9	29
Malta	75	24	17	8	49
The Netherlands	84	61	31	38	35
Austria	46	35	32	26	56
Poland	56	19	18	9	20
Portugal	77	20	10	11	26
Romania	26	18	13	10	28
Slovenia	82	31	22	20	48
Slovakia	70	31	17	15	43
Finland	80	29	35	29	54
Sweden	88	65	65	39	68

Note: <sup>(1)</sup> Answer to the question: Have you separated most of your waste for recycling in the past six months? <sup>(2)</sup> Answer to the question: Have you spoken to others about environmental issues in the past six months? <sup>(3)</sup> Answer to the question: Have you bought products marked with an environmental label in the past six months? <sup>(4)</sup> Answer to the question: Have you changed your diet to more sustainable food in the past six months? <sup>(5)</sup> Answer to the question: Have you changed the proneness of your diet to locally produced food in the past six months?

Source: European Commission (2020, p. 57), ‘Special Eurobarometer 501’ survey conducted in December 2019.

As the source of the second dataset, a public opinion poll conducted in 2019 and published in the Special Eurobarometer 501: ‘Attitudes of European Citizens towards the Environment’ (N=27 498) was used. The dataset refers to a collection of data on the behaviour of respondents (consumers) inherent to the concept of sustainability and includes purchasing decisions, shopping, consuming, and post-consuming activities. We collected behavioural data on the practice of the following actions in the past six months: sustainably produced food becoming more prevalent in the diet; separation of most waste intended for recycling; choosing products marked with environmentally friendly labels; including locally produced food in the diet, and finally, talking to others about envi-

ronmental issues. The indices in Table 2 are the percentages of the respondents who revealed in their responses whether they practice the abovementioned activities. For example, in Croatia, 23 per cent of the nation discusses environmental issues with others.

Descriptive statistics are summarised in Table 3. Variables such as 'recycling,' 'environmental chat,' and 'environmental label' were highly skewed ( $< -1$  or  $1 <$ ). 'Recycling' was negatively skewed, indicating that the mass of the distribution was concentrated above the mean value. 'Local food' skewness indicated nearly perfect symmetry ( $\approx 0$ ). Looking at the kurtosis function, only the 'environmental label' was significantly far from three, indicating a high portion of very low and very high values.

**Table 3. Descriptive statistics of dataset variables (N=27)**

Variable	Mean	S.D.	Skewness	Kurtosis
Net_Income	16 321	5 645.1	0.202	-0.831
Expenditure	19 237	4 413.5	0.578	0.130
Recycling	65	15.9	-1.150	1.341
Environment_Chat	31	13.1	1.491	1.548
Environment_Label	23	12.4	1.982	4.658
Organic_Food	18	9.2	0.793	-0.401
Local_Food	43	11.5	-0.046	-0.436

Source: own study.

The correlation analysis in Table 4 reveals significant correlations in most variables examined.

**Table 4. Correlation matrix (Pearson)**

Variable	Net_Income	Expenditure	Recycling	Environment_Chat	Environment_Label	Organic_Food	Local_Food
Net_Income	1.00	–	–	–	–	–	–
Expenditure	0.93**	1.00	–	–	–	–	–
Recycling	0.51**	0.48*	1.00	–	–	–	–
Environment_Chat	0.65**	0.63**	0.50**	1.00	–	–	–
Environment_Label	0.60**	0.59**	0.47*	0.85**	1.00	–	–
Organic_Food	0.74**	0.73**	0.52**	0.89**	0.82**	1.00	–
Local_Food	0.49**	0.37	0.22	0.50**	0.59**	0.58**	1.00

Note: \*\* Significant in  $\alpha$  level of 0.01. \* Significant in  $\alpha$  level of 0.05

Source: own study.

For empirical analysis, structural modelling was selected as a multiple regression analysis. It is used to test a hypothesis when there is prior knowledge of the potential relationships between variables. In structural modelling, confirmatory factor analysis (CFA) is appropriate, because it can answer the question: are the correlations between aggregated latent variables consistent with the research model? The CFA evaluates hypothetical structures of latent structures to understand better their relationship with each other (Bandalos & Finney, 2019). The task in the empirical analysis is to determine the relationship between two latent variables, 'material well-being' and 'sustainable consumption.'

Confirmatory analysis, unlike exploratory, tests latent processes in a predetermined theoretical structure, where variables are targeted and carefully selected, as is the case in this study. Observable variables predict latent variables, and then the relationship between latent variables is essential. The application of SEM can show multiple regression of all observables and latent variables. Path analysis includes predictive coefficients highlighted above the arrows that are estimated standardised regression weights. The arrow connecting latent variables shows how much one latent measure over a set of relationships between variables predicts another, and above the arrow connecting observable and latent variables shows how much the observable affects the latent. Principal component analysis with the usual Varimax orthogonal rotation was used for the empirical summary of the data set. The statistical method was performed in SPSS analysis of moment structures (AMOS) graphics.

According to Mueller and Hancock (2019), a good model is determined by using the following absolute and relative good fit indices and considering specific recommended cut-off values: goodness of fit index (GFI) > 0.85; standard fit index (NFI) > 0.80; comparative fit index (CFI) > 0.90; root mean square error of approximation (RMSEA) < 0.08; incremental fit index (IFI) > 0.90. The SEM enables researchers to carry out a simultaneous analysis of explanatory relations among multiple interrelated variables, either latent or observed variables (Mueller & Hancock, 2019). The research data included even observable variables, split into two datasets (Table 1 and Table 2), with effects directed towards two latent constructs. The first latent variable in the research model labelled 'material well-being' was invoked to explain the observed covariation in variables labelled 'net income' and 'expenditure.' In contrast, the second latent variable labelled 'sustainable consumption' captured five individual actions in favour of sustainable consumption, all addressing the maximum likelihood type of estimation.

## RESULTS AND DISCUSSION

Internal consistency of the research model reveals a good model fit, because at least four indices must be within the acceptable range (Cheung & Rensvold, 2002). The target values of variance extracted were above 0.50 except for 'recycling' and 'local food' (CFI=0.998, NFI=0.931, GFI=0.899, IFI=0.998; RMSEA=0.029). Therefore, the constructs were considered valid.

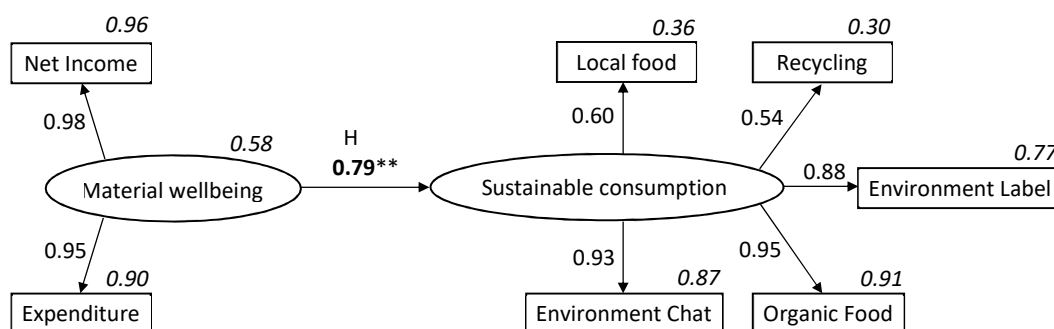


Figure 5. The research model with path coefficients and construct predictors

Source: own elaboration.

The result of the modelling illustrates the path diagram in Figure 5. Both observed variables, namely 'net income' ( $\beta=0.98^{***}$ ) and 'expenditure' ( $\beta=0.95^{***}$ ) significantly predicted the 'material well-being' construct. On the other side of the model, the prediction of 'local Food' was substantial ( $\beta=0.60$ ) but not significant ( $p>0.01$ ). Other variables were treated as statistically significant predictors: 'recycling' was the lowest predictor ( $\beta=0.54^{**}$ ) while the 'environmental chat' ( $\beta=0.93^{***}$ ), 'organic food' ( $\beta=0.95^{***}$ ), and 'environmental label' ( $\beta=0.88^{**}$ ) explained the 'sustainable consumption' construction very well. The path diagram clearly shows a strong influence of the observed variables on the prediction of both constructs in the model. Income and expenditure predicted the 'material well-being' construct and significantly affected the 'sustainable consumption' ( $\beta=0.79^{**}$ ) construct. Table 5 shows that most path coefficients in the structural model were statistically significant ( $p<0.01$ ). This evidence supports the research hypothesis.

Empirical research provided evidence that the material status of consumers in the Member States substantially affects the promotion and effectiveness of sustainable consumption practices in the national markets. These results can also help implement sustainable consumption policies in lagging countries, because they could reveal the main reason for their low positioning on the ranking scale. Many studies try to find the variables that control and align consumer behaviour and motivation with sustainable consumption policies (Cichočka *et al.*, 2020). Those variables that consumers can afford (*e.g.*, local food, environmentally friendly household appliances) and those public services that allow them to do so (*e.g.*, institutional support for recycling) can most strongly trigger behavioural change. At the same time, those that require other resources remain in the background.



**Table 5. Regression weights for each path**

	Variables observed ← Construct	Standardised – coefficients ( $\beta$ )	P-value <sup>(1)</sup>
H	Material wellbeing ← Sustainable consumption	0.79	0.006
	Net Income ← Material wellbeing	0.98	***
	Expenditure ← Material wellbeing	0.95	***
	Environment Chat ← Sustainable consumption	0.93	***
	Recycling ← Sustainable consumption	0.54	0.002
	Environment Label ← Sustainable consumption	0.88	0.002
	Local Food ← Sustainable consumption	0.60	0.015
	Organic Food ← Sustainable consumption	0.95	***

Note: <sup>(1)</sup> \*\*\* Significant in  $\alpha$  level of 0.001

Source: own study.

The results contribute to a more detailed view that the more affluent European countries can bear the burden of sustainability more easily than weaker ones. This is in line with the results of Ulman, Mihai, and Cautisanu (2021), who did a split between CEE countries around the same issue on three different levels of development. Despite using a different combination of basic components to determine economic development patterns, they indicate significant differences in environmental dimensions regarding stages of development. According to Sirgy (2018), the higher the requirements of regulation and the fewer material capabilities of citizens, the more significant the gap between aspirations and material achievement, as well as the non-cooperation among consumers and regulators.

According to the regression coefficients  $\beta$  in Table 5, it can be concluded that for EU consumers, variables that do not require additional material exposure (*e.g.*, speaking about environmental issues, purchasing local food) show a significant and very high degree of prediction of sustainable consumption construction. The other two variables are materially more demanding for consumers (*e.g.*, buying appliances with an environmental label, purchasing organic food) and targeting policies.

## CONCLUSIONS

Less developed countries may consider the introduction of sustainable consumption practices as a threat to their development. In contrast, richer countries see the development efforts of weaker countries as a precondition for destroying natural resources (Kates, Parris, & Leiserowitz, 2005). Looking at consumer policy through several aspects (Sirgy, 2018), such as consuming organically produced food, recycling waste, or using environmentally friendly appliances in households, it is noticeable that the material capabilities of consumers have a different degree of impact on each of these spheres.

New regulations and the investment of additional resources in the different ways of promoting sustainable consumption can likely lead to incremental improvement. However, the results reveal that reaching the average in the effectiveness of enforcement is reliably conditioned by an increase in consumer living standards. To prove this relationship, a sophisticated method of structural modelling of the relationship between the observed and unobservable variables was used, which showed that fulfilling this prerequisite in practice is statistically significant. Although Thøgersen (2005) argues that consumers do not manifest the expected proneness to sustainable consumption even in countries with high living standards, those countries are ranked much higher on the performance scale. Moreover, it cannot be generally concluded that sustainability positively affects living standards.

The findings of this research contribute to the sustainable consumption theory by developing new theoretical construction that combines the different sustainability featured variables as a response to the analysis of Tam and Chan (2018). The results show that lower disposable income and household consumption significantly impact the population's ability to practice sustainable consumption. Introducing policy measures for sustainable consumer behaviour, which simultaneously requires greater sacrifice, will depend on consumer income and the ability to meet the costs of environmentally friendly activities.

### Policy Implications

Policymakers can take advantage of administrative measures that would stimulate targeted consumer behaviour, achieve sustainability targets, and improve the country's position relative to the average rank. One of the targeted stimulation measures that would positively impact the amount of disposable income, household costs, and consumer purchasing power is to reduce the retail tax rate on food produced by organic production schemes or on energy-efficient appliances. The results reveal that it is not only the material condition that triggers the changes. More practical, frequent, and timely information provided to the public about the harmful consequences (e.g., thematic discussions about environmental problems) of ongoing environmental disruptions and climate change would have the most potent effect on positive changes towards sustainable behaviour. Any measure affecting the increase in disposable income and/or the reduction of household costs would have a reliable and significant impact on the effectiveness of the implementation of a sustainable consumer consumption policy at the national level. Likewise, Kovač, and Vandenberghe (2020) believe that in less developed countries, sustainability policy is excessively regulated. Efficiency and wealth maximisation should be the regulator's mainstream principles in designing the legal framework that will lead to the effective implementation of the sustainability concept.

### Limitations and Further Research

This research has limitations that may encourage future research. There are many options for combining variables and formatting constructs. The main limitation is that the material dimension of well-being has been taken as a critical construct only, which according to Buttel and Johnson (1977) also has a social dimension since various subjective aspects of consumer satisfaction with their treatment on the market can be tested. Other factors may also represent the sustainable consumption practice that this article has not examined, which can motivate further research.

Another limitation of the study is that the sustainable consumption construct was based on selected behavioural aspects, which means that many other manifestations of sustainable consumption were missing, for example, meat consumption or the reduction of air travel. For instance, it was found that meat consumption is very high in some wealthy countries, like the USA (Ritchie & Roser, 2017). These two types of behaviour may be perceived as good evidence of high material status, so consumers' willingness to avoid these types of pro-environmental behaviour could depend not only on material well-being but also on product attachment and/or the symbolic meaning of a product, for example.

Further research could examine the causality of other economic or social indicators to different kinds of sustainable consumption behaviour, i.e., electric car purchases, proneness to slow fashion clothes, or energy-efficient appliances.

### REFERENCES

- Aldrin, P. (2011). The Eurobarometer and the making of European opinion. In D. Gaxie, N. Hubé & J. Rowell (Eds.), *Perceptions of Europe: A Comparative Sociology of European Attitudes* (pp. 17-34). Colchester: ECPR Press.
- Aliyev, K. (2022). Well-being costs of perceived job insecurity: Mediating role of financial satisfaction, subjective healthiness and institutional trust. *Journal of International Studies*, 15(2), 140-156. <https://doi.org/10.14254/2071-8330.2022/15-2/10>
- Androniceanu, A.-M., Kinnunen, J., Georgescu, I., & Androniceanu, A. (2020). A Multidimensional Approach to Competitiveness, Innovation and Well-Being in the EU Using Canonical Correlation Analysis. *Journal of Competitiveness*, 12(4), 5-21. <https://doi.org/10.7441/joc.2020.04.01>
- Androniceanu, A. (2020). Major structural changes in the EU policies due to the problems and risks caused by COVID-19. *Administratie si Management Public*, 34, 137-149. <https://doi.org/10.24818/amp/2020.34-08>
- Bandalos, D.L., & Finney, S.J. (2019). Factor analysis: Exploratory and Confirmatory. In G.R. Hancock, L.M. Stapleton & R.O. Mueller (Eds.), *The reviewer's guide to quantitative methods in the social sciences* (2<sup>nd</sup> ed.), (pp. 98-122). New York: Routledge.

- Baumgärtner, S., & Quaas, M. (2010). What is sustainability economics?. *Ecological Economics*, 69(3), 445-450. <https://doi.org/10.1016/j.ecolecon.2009.11.019>
- Bruggen, E.C., Hogreve, J., Holmlund, M., Kabadayi, S., & Lofgren, M. (2017). Financial well-being: a conceptualization and research agenda. *Journal of Business Research*, 79(Oct), 228-237. <https://doi.org/10.1016/j.jbusres.2017.03.013>
- Buttel, F., & Johnson, D. (1977). Dimensions of Environmental Concern: Factor Structure, Correlates, and Implications for Research. *The Journal of Environmental Education*, 9(2), 49-64. <https://doi.org/10.1080/00958964.1977.10801872>
- Cichocka, I., Krupa, J. & Mantaj, A. (2020). The consumer awareness and behaviour towards food packaging in Poland. *Economics and Sociology*, 13(2), 304-317. <https://doi.org/10.14254/2071-789X.2020/13-2/20>
- Cheung, G.W., & Rensvold, R.B. (2002). Evaluating goodness-of-fit indexes for testing measurement invariance. *Structural Equation Modeling*, 9(2), 233-255. [https://doi.org/10.1207/S15328007SEM0902\\_5](https://doi.org/10.1207/S15328007SEM0902_5)
- Chovancová, J., & Tej, J. (2020). Decoupling economic growth from greenhouse gas emissions: the case of the energy sector in V4 countries. *Equilibrium. Quarterly Journal of Economics and Economic Policy*, 15(2), 235-251. <https://doi.org/10.24136/eq.2020.011>.
- Dean, H. (2019). *Social Policy, 3rd ed.* Oxford, UK: Polity Press.
- Duarte, R., Miranda-Buetas, S., & Sarasa, C. (2021). Household consumption patterns and income inequality in EU countries: Scenario analysis for a fair transition towards low-carbon economies. *Energy Economics*, 104, 105614. <https://doi.org/10.1016/j.eneco.2021.105614>
- Egea, J.M.O., & Garcia de Frutos, N. (2013). Toward Consumption Reduction: An Environmentally Motivated Perspective. *Psychology & Marketing*, 30(8), 660-675. <https://doi.org/10.1002/mar.20636>
- European Commission (2019). *The European Green Deal*. Retrieved from <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:52019DC0640> on 5 June 2022.
- European Commission (2020). *Special Eurobarometer 501: Attitudes of European citizens towards environment*. Retrieved from <https://europa.eu/eurobarometer/api/deliverable/download/file?deliverableId=72616> on 20 April 2022
- Eurostat (2012). *Eurostat-OECD Methodological Manual on Purchasing Power Parities, 2012 Edition*. Luxembourg: Publications Office of the European Union.
- Eurostat (2021). *Quality of life indicators – material living conditions*. Luxembourg: Publications Office of the European Union. Retrieved from <https://ec.europa.eu/eurostat/statistics-explained/SEPDF/cache/30560.pdf> on 9 April 2022.
- Ferriss, A.L. (2002). Does Material Well-Being Affect Non-Material Well-Being?. *Social Indicators Research*, 60(1/3), 275-280. <https://doi.org/10.1023/A:1021273317425>
- Filauro, S., & Parolin, Z. (2019). Unequal unions? A comparative decomposition of income inequality in the European Union and United States. *Journal of European Social Policy*, 29(4), 545-563. <https://doi.org/10.1177/0958928718807332>
- Firlej, K., A., & Stanuch, M., (2022). Forecasting the development of renewable energy sources in the Visegrad Group countries against the background of the European Union. *International Entrepreneurship Review*, 8(3), 37-52. <https://doi.org/10.15678/IER.2022.0803.03>
- Fraj-Andrés, E., & Martínez-Salinas, E. (2007). Impact of environmental knowledge on ecological consumer behaviour: an empirical analysis. *Journal of International Consumer Marketing*, 19(3), 73-102. [https://doi.org/10.1300/J046v19n03\\_05](https://doi.org/10.1300/J046v19n03_05)
- Franzen, A. (2003). Environmental Attitudes in International Comparison: An Analysis of the ISSP Surveys 1993 and 2000. *Social Science Quarterly*, 84(2), 297-308. <https://doi.org/10.1111/1540-6237.8402005>
- Franzen, A., & Meyer, R. (2009). Environmental Attitudes in Cross-National Perspective: A Multilevel Analysis of the ISSP 1993 and 2000. *European Sociological Review*, 26(2), 219-234. <https://doi.org/10.1093/esr/jcp018>
- Guillen-Royo, M., & Wilhite, H.L. (2015). Wellbeing and Sustainable Consumption. In W. Glatzer (Eds.), In *Global Handbook of Quality of Life: Exploration of Well-Being of Nations and Continents*, (pp. 301-316). Frankfurt: Springer. [https://doi.org/10.1007/978-94-017-9178-6\\_13](https://doi.org/10.1007/978-94-017-9178-6_13)
- Hayo, B., & Seifert, W. (2003). Subjective economic well-being in Eastern Europe. *Journal of Economic Psychology*, 24(3), 329-348. [https://doi.org/10.1016/S0167-4870\(02\)00173-3](https://doi.org/10.1016/S0167-4870(02)00173-3)

- Hines, J.M., Hungerford, H.R., & Tomera, A.N. (1987). Analysis and synthesis of research on responsible environmental behavior: a meta-analysis. *Journal of Environmental Education*, 18(2), 1–8. <https://doi.org/10.1080/00958964.1987.9943482>
- Inglehart, R. (1997). *Modernization and Postmodernization: Cultural, Economic, and Political Change in 43 Societies*. Princeton, NJ: Princeton University Press. <https://doi.org/10.1515/9780691214429>
- Kaase, M., & Saris, W.E. (1997). The Eurobarometer – A tool for comparative survey research. In W.E. Saris & M. Kaase (Eds.), *Eurobarometer: Measurement Instruments for Opinions in Europe*, (pp. 5-23). Mannheim: Zentrum für Umfragen, Methoden und Analysen. Retrieved from <https://nbn-resolving.org/urn:nbn:de:0168-ssoar-49742-1> on 9 April 2022.
- Kates, W.R., Parris, T.M. & Leiserowitz, A.A. (2005). What is Sustainable Development? Goals, Indicators, Values, and Practice. *Environment: Science and Policy for Sustainable Development*, 47(3), 8-21. <https://doi.org/10.1080/00139157.2005.10524444>
- Kovač, M., & Vandenbergh, S.-A., (2020). Over-regulation, Degradation of the Rule of Law and Implementation of Sustainable Practices. In V. Žabkar & T. Redek, (Eds.), *Challenges on the Path Toward Sustainability in Europe*, (pp 271-295). Bingley: Emerald Publishing Limited. <https://doi.org/10.1108/978-1-80043-972-620201015>
- Krepl, V., Shaheen, H. I., Fandi, G., Smutka, L., Muller, Z., Tlustý, J., Husein, T., Ghanem, S. (2020). The role of renewable energies in the sustainable development of post-crisis electrical power sectors reconstruction. *Energies*, 13(23), 6326. <https://doi.org/10.3390/en13236326>
- Magazzino, C., & Leogrande, A. (2021). Subjective Well-Being In Italian Regions: A Panel Data Approach. *Applied Econometrics and International Development*, 21(1), 1-18. <https://doi.org/10.21203/rs.3.rs-117790/v1>
- Makarenko, I., Plastun, A., Kozmenko, S., Kozmenko, O., & Rudychenko, A. (2022). Corporate transparency, sustainable development and SDG 2 and 12 in agriculture: The case of Ukraine. *Agris on-Line Papers in Economics and Informatics*, 14(3), 57-70. <https://doi.org/10.7160/aol.2022.140305>
- Minton, A.P., & Rose, R.L. (1997). The effects of environmental concern on environmentally friendly consumer behaviour: an exploratory study. *Journal of Business Research*, 40(1), 37-48. [https://doi.org/10.1016/S0148-2963\(96\)00209-3](https://doi.org/10.1016/S0148-2963(96)00209-3)
- Mueller, R.O., & Hancock, G.R. (2019). Structural equation modeling. In G.R. Hancock, L.M. Stapleton & R.O. Mueller (Eds.), *The reviewer's guide to quantitative methods in the social sciences*, 2<sup>nd</sup> ed., (pp. 445-456). New York: Routledge/Taylor & Francis Group.
- O'Riordan, T., McGowan, A.H., Cutter, S., Hamann, R., & Lahsen, M. (2020). Reframing Sustainability in the Emergent Age. *Environment: Science and Policy for Sustainable Development*, 62(6), 2-7. <https://doi.org/10.1080/00139157.2020.1820291>
- Organisation for Economic Co-operation and Development (2020). *How's Life? 2020: Measuring Well-being*. Paris: OECD Publishing.
- Ortega-Egea, J.M., Garcia-de-Frutos, N., & Antolin-Lopez, R. (2014). Why do some people do 'more' to mitigate climate change than others?. Exploring heterogeneity in psycho-social associations. *PLoS One*, 9(9), 106645.
- Özokcu, S., & Özdemir, Ö. (2017). Economic growth, energy, and environmental Kuznets curve. *Renewable and Sustainable Energy Reviews*, 72(May), 639-647. <https://doi.org/10.1080/00139157.2020.1820291>
- Pagiaslis, A., & Krontalis, A.K. (2014). Green consumption behavior antecedents: environmental concern, knowledge, and beliefs. *Psychology & Marketing*, 31(5), 335-348. <https://doi.org/10.1002/mar.20698>
- Pilelienė, L., & Tamulienė, V. (2021). Consumer attitudes and behavior towards organic products: Evidence from the Lithuanian market. *Journal of Entrepreneurship, Management and Innovation*, 17(1), 269-299. <https://doi.org/10.7341/20211719>
- Potoczek, N.R. (2021). The use of process benchmarking in the water industry to introduce changes in the digitization of the company's value chain. *Journal of Entrepreneurship, Management, and Innovation*, 17(4), 51-89. <https://doi.org/10.7341/20211743>
- Rahman, O., & Koszewska, M. (2021) A study of consumer choice between sustainable and non-sustainable apparel cues in Poland. *Journal of Fashion Marketing and Management: An International Journal*, 24(2), 213-234. <https://doi.org/10.1108/JFMM-11-2019-0258>
- Richterová, E., Richter, M., & Sojková, Z. (2021). Regional eco-efficiency of the agricultural sector in V4 regions, its dynamics in time and decomposition on the technological and pure technical eco-efficiency change. *Equilibrium. Quarterly Journal of Economics and Economic Policy*, 16(3), 553-576. <https://doi.org/10.24136/eq.2021.020>

- Ritchie, H., & Roser, M. (2017). *Meat and Dairy Production*. Retrieved from <https://ourworldindata.org/meat-production> on 19 May 2022.
- Saari, U.A., Damberg, S., Frömbing, L., & Ringle, C.M. (2021). Sustainable consumption behavior of Europeans: The influence of environmental knowledge and risk perception on environmental concern and behavioral intention. *Ecological Economics*, 189, 107155. <https://doi.org/10.1016/j.ecolecon.2021.107155>
- Shahbaz, M., Lean, H.H., & Shabbir, M.S. (2012). Environmental Kuznets Curve hypothesis in Pakistan: Cointegration and Granger causality. *Renewable and Sustainable Energy Reviews*, 16(5), 2947-2953. <https://doi.org/10.1016/j.rser.2012.02.015>
- Simonetti, L. (2012). The ideology of Slow Food. *Journal of European Studies*, 42(2), 168-189. <https://doi.org/10.1177/0047244112436908>
- Sirgy, M.J. (2018). The Psychology of Material Well-Being. *Applied Research Quality Life*, 13(2), 273-301. <https://doi.org/10.1007/s11482-017-9590-z>
- Stern, P.C. (2000). New environmental theories: toward a coherent theory of environmentally significant behavior. *Journal of Social Issues*, 56(3), 407-424. <https://doi.org/10.1111/0022-4537.00175>
- Straughan, R.D., & Roberts, J.A. (1999). Environmental segmentation alternatives: a look at green consumer behavior in the new millennium. *Journal of Consumer Marketing*, 16(6), 558-575. <https://doi.org/10.1108/07363769910297506>
- Šajin, N. (2020). *Sustainable consumption: Helping consumers make eco-friendly choices*. European Parliamentary Research Service. Retrieved from <https://www.europarl.europa.eu> on 9 April 2022.
- Šubová, N. (2022). The contribution of energy use and production to greenhouse gas emissions: Evidence from the agriculture of European countries. *Agris on-Line Papers in Economics and Informatics*, 14(3), 111-123. <https://doi.org/10.7160/aol.2022.140309>
- Šulyová, D., & Kubina, M. (2022). Quality of life in the concept of strategic management for Smart Cities. *Forum Scientiae Oeconomia*, 10(3), 9-24. [https://doi.org/10.23762/FSO\\_VOL10\\_NO3\\_1](https://doi.org/10.23762/FSO_VOL10_NO3_1)
- Tam, K.P., & Chan, H.W. (2018). Generalized trust narrows the gap between environmental concern and pro-environmental behavior: multilevel evidence. *Global Environmental Change*, 48(Jan), 182-194. <https://doi.org/10.1016/j.gloenvcha.2017.12.001>
- Taylor, D. (2012). Wellbeing and Welfare: A Psychosocial Analysis of Being Well and Doing Well Enough. *Journal of Social Policy*, 40(4), 777-794. <https://doi.org/doi:10.1017/S0047279411000249>
- Thøgersen, J. (2005). How May Consumer Policy Empower Consumers for Sustainable Lifestyles? *Journal of Consumer Policy*, 28(2), 143-177. <https://doi.org/10.1007/s10603-005-2982-8>
- Ulman, S.R., Mihai, C., & Cautisanu, C. (2021). Inconsistencies in the Dynamics of Sustainable Development Dimensions in Central and Eastern European Countries. *Polish. Journal. of Environmental. Studies*. 2021, 30, 2779-2798. <https://doi.org/10.15244/pjoes/130125>
- Ulman, S.R., Mihai, C., Cautisanu, C., Brumă, I.S., Coca, O., & Stefan, G. (2021). Environmental Performance in EU Countries from the Perspective of Its Relation to Human and Economic Wellbeing. *International Journal of Environmental Research and Public Health*, 18(23), 12733. <https://doi.org/10.3390/ijerph182312733>
- Vandevijvere, S., & Vanderlee, L. (2019). Effect of Formulation, Labelling, and Taxation Policies on the Nutritional Quality of the Food Supply. *Current Nutrition Reports*, 8(3), 240-249. <https://doi.org/10.1007/s13668-019-00289-x>
- Zysk, W. (2020). Fair trade phenomenon and its evolution in Visegrad countries. *International Entrepreneurship Review*, 6(4), 81-98. <https://doi.org/10.15678/IER.2020.0604.06>

### Authors


The contribution of each author is as follows:

Dario Dunković - 35%, Blaženka Knežević - 35%, Barbara Borusiak - 30%.

#### Dario Dunković

Associate Professor, Department of Trade and International Business, Faculty of Economics & Business, University of Zagreb, Zagreb, Croatia research interests include: trade management, European consumer policy.


**Correspondence to:** J. F. Kennedy Square 6, 10 000 Zagreb, CROATIA, e-mail: ddunkovic@efzg.hr

**ORCID**  <http://orcid.org/0000-0002-2030-2212>

#### Blaženka Knežević

Professor, Deputy Head of Department, Department of Trade and International Business, Faculty of Economics & Business, University of Zagreb, Zagreb, Croatia research interests include: the role of distributive trade in the national economy, e-commerce.


**Correspondence to:** J. F. Kennedy Square 6, 10 000 Zagreb, CROATIA, e-mail: bknezevic@efzg.hr

**ORCID**  <http://orcid.org/0000-0003-1509-3126>

#### Barbara Borusiak

Associate Professor, Head of Department, Department of Commerce and Marketing, Poznań University of Economics and Business, Poznań, Poland research interests include: sustainable consumption, the propensity of consumers to reduce consumption.

**Correspondence to:** Al. Niepodległości 10, 61-875 Poznań, POLAND, e-mail: barbara.borusiak@ue.poznan.pl

**ORCID**  <http://orcid.org/0000-0003-0672-1135>

### Acknowledgements and Financial Disclosure

We thank the anonymous referees for their supportive and beneficial comments, which allowed to increase the value of this article.

### Conflict of Interest

The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

### Copyright and License



This article is published under the terms of the Creative Commons Attribution – NoDerivs (CC BY-ND 4.0) License  
<http://creativecommons.org/licenses/by-nd/4.0/>

Published by Cracow University of Economics – Krakow, Poland



Ministry of Education and Science  
Republic of Poland

The journal is co-financed in the years 2022-2024 by the Ministry of Education and Science of the Republic of Poland in the framework of the ministerial programme "Development of Scientific Journals" (RCN) on the basis of contract no. RCN/SP/0583/2021/1 concluded on 13 October 2022 and being in force until 13 October 2024.



# Impact of tourism development on latent entrepreneurship in BRICS

Folorunsho M. Ajide

## ABSTRACT

**Objective:** The study aims to examine the impact of tourism development on latent entrepreneurship in BRICS countries (Brazil, Russia, India, China, and South Africa).

**Research Design & Methods:** The study used panel data of BRICS countries for the period of 2001-2020. The article employs the quantitative method including the panel dynamic ordinary least square approach to analyse the data.

**Findings:** The results showed that tourism provides greater opportunities for latent entrepreneurs in BRICS countries. The results of the control variables showed that economic complexity did not spur entrepreneurial inspiration while foreign direct investment improves entrepreneurial development in BRICS economies.

**Implications & Recommendations:** The study concluded that policymakers should concentrate efforts on improving the tourism sector to accelerate the pace of entrepreneurial development. Appropriate policies should be implemented to further ease the business activities in the group of BRICS economies.

**Contribution & Value Added:** The study adds value to the literature by providing an empirical analysis of the nexus between tourism development and entrepreneurship. The study focused on BRICS countries to see how tourism development springs up entrepreneurial inspiration among adults in emerging economies. The study models entrepreneurship function within the framework of the panel co-integrating regression approach. This is a powerful technique that accounts for endogeneity and serial correlation based on the first-different stationary of the variables.

**Article type:** research article

**Keywords:** dynamic ordinary least square; emerging economies; entrepreneurial intentions; tourism

**JEL codes:** M13, Z30

Received: 10 August 2022

Revised: 11 November 2022

Accepted: 17 November 2022

## Suggested citation:

Ajide, F.M. (2022). Impact of tourism development on latent entrepreneurship in BRICS. *Entrepreneurial Business and Economics Review*, 10(4), 143-154. <https://doi.org/10.15678/EBER.2022.100409>

## INTRODUCTION

The importance of tourism development in the economy is well documented in the literature. It contributes to income growth (Usmani, Akram, & Praveen, 2020) by enhancing international reserves, improves investment in infrastructures, stimulates human capital development, creates job opportunities, generates positive externalities, and increases relative competitiveness of the economy (Rani & Kumar, 2021). However, one important area that has been empirically overlooked is the impact of tourism development on entrepreneurial development (Ferreira *et al.*, 2019; Subramaniam & Masron, 2021). Therefore, the objective of the study is to examine the impact of tourism development on latent entrepreneurship in BRICS economies. Tourism offers new ideas and opportunities to meet the needs of consumers and influences latent entrepreneurial process, namely the *situation of nursing the ambition of being self-employed or establishing new business activities in few months' time*. It is generally agreed that the first stage of entrepreneurship starts with conceiving business ideas that trigger the exploration of entrepreneurial opportunities within the environment (Barraza, 2018; Le Trinh, 2019).



Tourism provides opportunities to launch new businesses ranging from hospitality businesses and transportation to entertainment and cultural services. It supports the diffusion of innovations and ideas among tourist entrepreneurs. Despite the significance of tourism, so far, no study has investigated the impact of tourism development within the bloc of BRICS countries (Brazil, Russia, India, China, and South Africa). This study fills the void in the literature by examining the impact of tourism development on latent entrepreneurship in BRICS countries. This study focuses on BRICS countries because they are the leading emerging economies representing a bloc of countries that caters for major tourists from advanced nations (Usmani *et al.*, 2020). Tourism development has become the major focus of these nations after the Chinese-Xiamen Summit in 2017. Over the years, these countries have recorded robust economic growth with a 30% increase in GDP in 2014, from 11% in 1990. The countries have been the focal destination for world tourists (World Travel & Tourism Council, 2012; 2015).

Moreover, BRICS countries benefited from tourism development compared to other developing countries. Tourism opens up the economy for higher entrepreneurial opportunities and enables countries to gain from technology diffusion. For instance, the BRICS economies are currently in transit from an efficiency to an innovation economy-driven stage (Coulibaly *et al.*, 2018). These countries account for 35% of the global GDP. In terms of doing business, China is ranked third in 2020 with Brazil positioned at 124th in the global ranking. Russia is ranked 28th and doing better as shown in all the business indicators. South Africa and India are ranked 84th and 63rd respectively. It is generally agreed that these countries have benefited from better entrepreneurial opportunities brought by tourism development which have improved the growth and development of these nations (Rani & Kumar, 2021). Data from Global Entrepreneurship Monitor (GEM) shows that in Russia, about 6.29% of the adult population involves in latent or new entrepreneurial activities. In India, Brazil, and China, about 84.5%, 61.9%, and 66.9% of the adult population respectively have sufficient skills and awareness to commence new business venturing (GEM, 2019; 2020).

To my knowledge, apart from the study by Subramaniam and Masron (2021) that focuses on developing nations, no studies have empirically examined the impact of tourism development on entrepreneurship. My study is novel in many ways. Firstly, in contrast to Subramaniam and Masron (2021), I focused on BRICS countries. These countries are a group of leading emerging economies in the World. Secondly, this study focused on latent entrepreneurship to see how tourism development springs up entrepreneurial inspiration among adults in emerging economies. The tourism sector is an engine of economic prospects and outperformed some sectors in most BRICS nations. Small and medium enterprises play enormous roles in the tourism sector in enhancing youth empowerment, national building and economic stimulus. Additionally, entrepreneurial activities in this sector are nature-based which means they focus on preserving nature. Finally, this study modelled entrepreneurship function within the framework of panel co-integrating regression approach. This is a powerful technique that accounts for endogeneity and serial correlation based on the first-differenced stationary of the variables. The results revealed that tourism promotes latent entrepreneurship in BRICS economies.

### **Literature Review and Hypothesis Development**

The economic literature regards the entrepreneurial process as the key ingredient in economic development (Schumpeter, 1934). Entrepreneurial actions could be better explained as the process of combining economic resources and coordinating them for effective usage for economic change through innovation and modern technologies (Mishra & Zachary, 2014). Entrepreneurial actions are the driving forces for firm creation and economic dynamics. It is the force that pushes the economic system out of equilibrium through innovation and technology; leading to new products and other innovative activities (Ajide, 2022). Latent entrepreneurship theory can be rooted in the theory of reasoned or planned behaviour (Linan & Chen, 2006; Ajzen & Fishbein's, 1975; Shapero & Sokol, 1982; Fatoki & Chindoga, 2012). Because latent entrepreneurship includes individuals who prefer to be self-employed but are still under wage employment in an economy, therefore, the theory of reasoned actions could better accommodate such a planned behaviour (Ajzen & Fishbein, 1975). This theory stresses that latent entrepreneurial behaviour is highly influenced by planned intention and attitude of individuals. However, in this study, I explore the theory of economic Entrepreneurship (Eisenhauer, 1995; Ripsas, 1998).

Mishra and Zachary (2014) propose entrepreneurial value creation theory which enables economists to incorporate economic variables in the entrepreneurship model. It is believed that there are many economic factors influencing entrepreneurial mindsets which include: competitiveness and innovation, the level of the country's economic transformation proxy by economic complexity (Nguyen *et al.*, 2021; Ajide, 2022), foreign direct investment (Munemo, 2018), business regulation (Chambers & Munemo, 2019), monetary and fiscal policy, economic globalization, income, and remittance among others (Rosser, 2010; Coulibaly *et al.*, 2017; Ajide *et al.*, 2021). In the same vein, entrepreneurial value creation offers a holistic approach to the complex and disordered activities in entrepreneurial processes as a multidisciplinary study. Tourism development is another economic factor affecting entrepreneurship development (Subramaniam & Masron, 2021). Higher tourist flows may improve latent entrepreneurship, because it opens a new market and new employment opportunities. Entrepreneurship is a process by which latent entrepreneurial activity happens to be the first stage. Tourism opens new business thinking and ideas, a process that further accelerates the pace of achieving sustainable development (Barraza, 2018).

On empirical front, there are limited studies that examine tourism as a factor influencing the entrepreneurship process. Fatoki and Chindoga (2012) examined the barriers to latent entrepreneurship in South African high school students. Using random sample and structured questionnaires to generate data for the study with the use of the five-points Likert scale, the results showed that latent entrepreneurship was low due to financial constraints and the lack of market opportunities. Kazakhstan, Tleuberdinova, Shayekina, Salauatovam and Pratt (2021) estimate the model of entrepreneurship based on data spanning a period of 1996-2018. The results based on the autoregressive distributed lag (ARDL) model showed that there was a positive relationship between wages in the tourism sector and entrepreneurship development in the short run, implying that an increase in wage rate attracts entrepreneurial activities. However, in the long run, there was a negative association between the two variables, implying that an increase in wage rate leads to a higher cost of entrepreneurial operation. Using structural equation modelling, Rodríguez-Aceves, Saiz-Alvarez, and Muñiz-Avila (2019) showed that the latent entrepreneurial launching process was being delayed in Mexico due to fear of failure and perceived opportunities. The recent study of Subramaniam and Masron (2021) shed further light on the nexus between tourism and entrepreneurial development. The authors estimated an entrepreneurship model in which tourism served as the key independent variable within a period of 2010-2017. The results based on the generalized method of moment revealed that tourism improves entrepreneurship. This suggests that the importance of tourism in the entrepreneurial process should not be overlooked in developing economies (Cristache, Soare, Nastase, & Antohi, 2021). The outcomes of the existing studies made us formulate the following hypothesis: *tourism development has a positive and significant impact on latent entrepreneurship in BRICS economies.*

On other determinants of entrepreneurship, Filipiak *et al.* (2021) suggest that digitization or ICT improves the efficiency in tourism towards enterprise development. According to Fu *et al.* growth-oriented entrepreneurship should be encouraged through a conducive business environment. Tourism entrepreneurship accelerates economic development by providing employment and generating income for innovative entrepreneurs (Ahmad *et al.*, 2014). Abbasi *et al.* (2021) showed that tourism activities relate to economic complexity. Dias *et al.* (2021) confirmed that Covid-19 caused an unprecedented crisis in the development of tourism activities (Polukhin *et al.* 2021). Rubbo *et al.* (2021) confirmed that innovation and economic complexity have significant effects on firm productivity in BRIC nations. Contrary to Nguyen *et al.* (2021), the study of Ajide (2022) did not confirm a nonlinear relationship between entrepreneurship and economic complexity.

## RESEARCH METHODOLOGY

### Data Sources and Model Specification

To empirically achieve the objective of this study, I utilized data from BRICS countries (Brazil, Russia, India, China, and South Africa) for the period of 2001-2020. This period is limited by data availability. The author specified the empirical model as shown in equation (1).

$$LATENT_{it} = \varphi_0 + \varphi_1 LTA_{it} + \varphi_2 ECOCI_{it} + \varphi_3 FDI_{it} + \varphi_4 INF_{it} + \varphi_5 LGDPPC_{it} + \varphi_6 LSSE_{it} + \varphi_7 MOB_{it} + \varepsilon_{it} \quad (1)$$

In equation (1),  $i$  and  $t$  are the country and time identity respectively. The LATENT presents latent entrepreneurship which is the dependent variable while the LTA is the number of tourism arrivals (the key independent variable). I included a number of control variables to mitigate against variables omission bias. Moreover, my choice of control variables was informed by the extant literature. The control variables included: economic complexity (*ECOCI*) as a proxy for economic transformation (see Nguyen *et al.*, 2021; Ajide, 2022), foreign direct investment (FDI) to proxy the presence of multinational firms in the economy which may influence the intention to engage in entrepreneurial activities (Munemo, 2018; Ajide & Soyemi, 2022), the inflation rate was used to capture the level of macroeconomic volatility (Ajide, 2022; Gomes & Ferreira, 2022). The LGDPPC represents economic growth (Chambers & Munemo, 2019; Asongu *et al.*, 2018). Next, LSSE is secondary school enrolment. It serves as a proxy for human capital development (Nguyen, 2020; Chambers & Munemo, 2019) while MOB is the mobile telephony an indicator of ICT development in the economy (Asongu *et al.*, 2018). For the measurement of variables and source of data, see Table 1.

**Table 1. Sources of data and variables' measurements**

Variable	Acronyms	Measurement	Sources of data
Latent entrepreneurship	LATENT	This is the percentage of adults' population that are latent entrepreneurs. These people intend to commence businesses in the next three years.	Global Entrepreneurship Monitor database
Economic complexity	ECOCI	Index of economic complexity	MIT's Observatory of Economic Complexity database
Tourism Arrivals	LTA	International tourism (number of arrivals). The logarithm form of the data is taken.	World Development Indicators, online version
Foreign direct investment	FDI	Foreign direct investment (as a percentage of GDP).	World Development Indicators, online version
Inflation rate	INF	Annual percentage change in the consumer price index.	World Development Indicators, online version
Economic growth	LGDPPC	GDP per capita (constant 2015 USD). This is taking in logarithm form	World Development Indicators, online version
Human capital development	LSSE	School enrollment, secondary (% gross)	World Development Indicators, online version
ICT penetration	MOB	Mobile cellular subscriptions (per 100 people)	World Development Indicators, online version
Tourism receipts	TR	International tourism, receipts (current USD. The logarithm form of the data is taken.	World Development Indicators, online version

Source: own study.

### Estimation Technique

To ensure efficiency and reliable estimation technique, this study involved a number of preliminary tests. This included panel unit root test via Im *et al.* (2003), test (IPS), and augmented dickey fuller (ADF) to ascertain the level of stationarity of the variables and panel co-integration test via Pedroni (1999) which enabled us to confirm whether there was a long-run equilibrium. After confirming the stationarity of the variables and the co-integration, this study subsequently estimated the model using the pooled, weighted dynamic ordinary least square (DOLS) to examine the impact of tourism development on latent entrepreneurship in BRICS economies.

The estimation technique is robust in the presence of serial correlation and very effective in dealing with the endogeneity problem common in economic modelling. The panel DOLS is an extension of Stock and Watson (1993). In this estimation, the long run estimator is efficient by employing the lead and lagged differences in the independent variables to reliably deal with endogeneity feedback. The panel version of the DOLS was obtained in equation (2).

$$y_{it} = \alpha_{it} + x'_{it}\beta + \sum_{j=-p}^p \pi_{it}\Delta X_{i,i+j} + u_{it} \quad (2)$$

The estimated coefficient is  $\beta$  while  $p$  represents the number of leads and lags in the first differenced variables.  $\pi_{it}$  represents the associated parameters and  $\Delta X$  is the independent variable in the first different form. The parameter was assumed to be asymptotically and normally distributed. The coefficients of dynamic ordinary least square were obtained from equation (3).

$$\hat{\beta} = \sum_{i=n}^N \{ \sum_{t=1}^T z_{it} z'_{it} \}^{-1} \{ \sum_{t=1}^T z_{it} \hat{y}_{it}^+ \} \quad (3)$$

$z_{it} = \{x_{it} - \bar{x}_i, \Delta X_{i,t-1}, \Delta X_{i,t+1}\}$  is  $2(p+1) \times 1$  vectors of independent variables. The panel DOLS is applicable when the time/period (T) sufficiently exceeds the number of cross-sectional units (N). In this study, T=20 and N=5. Therefore, panel dynamic ordinary least square was appropriate because it takes lead and lags, in which the model is estimated based on the first-different stationary of all the variables as confirmed by the panel unit root tests. However, the technique has a limiting Gaussian distribution which is based on the fixed number of cross-sections. Furthermore, its Wald test statistic also has a limiting distribution (Mark & Sul, 2003). Notwithstanding, the technique offers computational convenience as an alternative to the fully modified OLS estimator suggested by Pedroni (1997).

### Results and Discussion

Table 2 presents the descriptive statistics of the variables. The percentage of latent entrepreneurs was approximately 18.83% which falls within the minimum and maximum values. The standard deviation was very close to the mean, implying that the level of dispersion was relatively minimal in BRICS economies. The key independent variable was tourism development with an average value of 7.2 percentage points. This value was within the maximum and minimum percentage points.

**Table 2. Descriptive statistics**

Variable	Obs	Mean	Std	Min	Max
LATENT	97	18.839	12.189	2.12	52.70
ECOCI	100	0.499	0.237	-0.015	0.967
LTA	100	7.200	0.518	6.377	8.210
FDI	100	2.293	1.212	0.205	5.368
INF	100	5.913	3.819	-0.731	21.477
LGDPCC	100	3.687	0.326	2.892	4.015
LSSE	100	1.794	0.502	0	2.041
MOB	100	85.334	50.017	0.608	165.661

Source: own study.

The average economic growth in BRICS economies was approximately to be 3.68 percentage points. The level of the mobile application was relatively high and the level of economic transformation proxied by economic complexity is relatively stable. The inflation rate was minimal which is on average 5.9%. Table 3 shows the correlation between the variables.

**Table 3. Pairwise correlation**

Variable	LATENT	ECOCI	LTA	FDI	INF	LGDPCC	LSSE	MOB
LATENT	1.000	–	–	–	–	–	–	–
ECOCI	-0.168	1.000	–	–	–	–	–	–
LTA	-0.108	0.336*	1.000	–	–	–	–	–
FDI	0.368	0.250*	0.210*	1.000	–	–	–	–
INF	-0.227*	0.145	-0.258*	-0.022	1.000	–	–	–
LGDPCC	-0.393*	0.635*	-0.265*	0.177	0.033	1.000	–	–
LSSE	-0.093	0.103	-0.012	-0.086	0.131	0.065	1.000	–
MOB	-0.441*	0.281*	0.117	-0.029	-0.029	0.602*	0.038	1.000

Note: \*\*\*, \*\*, \* imply significant at 5%.

Source: own study.

As demonstrated in Table 3, it is very clear that there was no higher level of correlation among the variables. This was further buttressed by the variance inflation factor of each variable as presented in Table. The toleration rate was below 1 point. Therefore, it can be concluded that there was no evidence of multicollinearity. I also conducted a model specification test using linktest (Table 5). The null hypothesis was that the model was specified correctly. The coefficient of  $\_hatsq$  was not statistically significant. The Wald test of the overall significance of the model was 40.64 (P-value =0.000). This further suggests that the model is correctly specified when the regressors explain up to 46% of the outcome variance. In Table 6, I present the panel unit root test of each variable. No variable was stationary at level, however, they were stationary after the first difference. This implies that there is a need to confirm whether there is co-integration among the variables or not.

**Table 4. Multicollinearity test (variance inflation factor; VIF)**

Variable	VIF	1/VIF
LTA	1.30	0.770
ECOCI	1.90	0.526
FDI	1.17	0.852
INF	1.17	0.852
LGDPPC	2.52	0.397
LSSE	1.04	0.958
MOB	1.71	0.584
Mean VIF	1.54	—

Source: own study.

**Table 5. Model specification test (Linktest results)**

LATENT	Coef.	Std. Err.	t-Statistic	P-value	[95% Conf. Interval]	
$\_hat$	0.625	0.396	1.58	0.118	-0.161	1.413
$\_hatsq$	0.010	0.010	0.98	0.328	-0.010	0.031
$\_cons$	2.584	3.488	0.74	0.461	-4.341	9.510
F(2, 94)	40.64					
Prob > F	0.000					
R-squared	0.463					
Adj R-squared	0.452					

Source: own study.

We also conducted a panel co-integration via Pedroni test. Table 7 shows Phillips-Perron, Modified Phillips-Perron, and Augmented Dickey-Fuller indicators of Pedroni test reject the null hypothesis of no co-integration. This implied that there occurred a long-run co-integration among the variables. On this note, I proceeded to estimate the model using the Panel dynamic ordinary least square.

Table 8 shows the estimated coefficients of the panel dynamic ordinary least square based on pooled panel with trend specification. The co-variance was calculated by bandwidth estimation. The coefficient of tourism development was positive and significant; implying that tourism promotes latent entrepreneurship in BRICS economies. My results were not consistent with the study of Tleuberdinova *et al.* (2021) who confirmed that wages in the tourism sector reduced entrepreneurial development in Kazakhstan in the long run. However, my results supported the findings of Subramaniam and Masron (2021) who estimated the model using the generalized method of moment (GMM) on data spanning 2010 to 2017. The results suggest that tourism opens opportunities for self-employment and other entrepreneurial activities in emerging economies. The tourism sector does this by interacting with other sectors for productivity, economic progress, and entrepreneurial development.

**Table 6. Panel Unit root test**

Variables	ADF(Fisher-type)	Im-Pesaran-Shin unit-root	Conclusion
LATENT	-0.346	-1.841	
$\Delta$ (LATENT)	-2.464	-5.051***	I(1)
ECOCI	1.968	-0.781	
$\Delta$ (ECOCI)	-7.120	-4.207***	I(1)
LTA	1.359	-1.040	
$\Delta$ (LTA)	-2.093**	-2.324**	I(1)
FDI	-0.287	-1.181	
$\Delta$ (FDI)	-3.672***	-6.039***	I(1)
INF	-1.488	-1.620	
$\Delta$ (INF)	-8.050***	-4.787***	I(1)
LGDPPC	-1.170	-1.900	
$\Delta$ (LGDPPC)	-3.633***	-2.485***	I(1)
LSSE	-2.236	-1.682	
$\Delta$ (LSSE)	-8.711***	-3.441***	I(1)
MOB	-0.424	-1.693	
$\Delta$ (MOB)	-2.328**	-2.274**	I(1)

Note: \*\*\*, \*\*, \* imply significant at 1%, 5% and 10% respectively.

Source: own study.

**Table 7. Pedroni test for Panel Cointegration (H<sub>0</sub>: No cointegration)**

Pedroni test	Statistic	P-value
Modified Phillips-Perron t	2.3529***	0.0093
Phillips-Perron t	-1.869***	0.00308
Augmented Dickey-Fuller t	-1.9693**	0.0245

Note.: augmented lags=1, \*\*\*, \*\*, \* imply significant at 1%, 5% and 10% respectively.

Source: own study.

**Table 8. Panel dynamic ordinary least square**

Variable	Tourism Arrivals	Tourism Arrivals	Tourism Arrivals	Tourism Arrivals	Tourism Arrivals	Tourism Arrivals	Tourism Receipts
LTA	28.627*** (0.000)	30.971*** (0.000)	35.971*** (0.000)	30.236*** (0.000)	30.158*** (0.000)	37.229*** (0.000)	–
TR	–	–	–	–	–	–	35.724*** (0.000)
FDI	–	3.878*** (0.000)	3.027*** (0.000)	1.429** (0.028)	0.615 (0.370)	8.243*** (0.000)	6.419*** (0.000)
ECOCI	–	-18.166*** (0.000)	-20.54*** (0.000)	-12.570** (0.065)	-5.558 (0.450)	7.645 (0.315)	-34.576*** (0.000)
INF	–	–	0.703*** (0.000)	0.509** (0.034)	0.817** (0.002)	-1.290*** (0.000)	1.042*** (0.000)
LGDPPC	–	–	–	-25.147** (0.040)	-47.48*** (0.000)	-129.76*** (0.000)	46.261** (0.014)
LSSE	–	–	–	–	0.253 (0.823)	15.702*** (0.000)	5.508*** (0.000)
MOB	–	–	–	–	–	-0.046 (0.264)	-0.064 (0.127)
R-squared	0.115	0.719	0.784	0.838	0.864	0.955	0.919
Wald Chi2 test	23.840*** (0.000)	207.49*** (0.000)	254.80*** (0.000)	211.69*** (0.000)	237.72*** (0.000)	1254.90*** (0.000)	447.11*** (0.000)
No. of group	5	5	5	5	5	5	5

Note: \*\*\*, \*\*, \* imply significant at 1%, 5% and 10% respectively. Dependent variable: LATENT.

Source: own study.

Furthermore, tourism drives citizens to have entrepreneurial intentions because it brings new ideas through regular visits by tourists including catering services, hospitality, and transportation system. It also helps small business owners such as handicraft, food, and beverage shops to expand activities. The fact that there is demand among tourists for local products, culture, and traditional events may also serve as inspiration for latent entrepreneurs to actualize their dreams. Tourism would enhance innovation and technological transfer and bring new ideas and open new opportunities for entrepreneurial inspiration.

Because most tourist locations are usually found in rural or suburban areas, tourism serves as a tool for accelerating well-being and quality of life by encouraging indigenous entrepreneurial development (Irvine & Anderson, 2004; Fuller-Love *et al.*, 2006). The demand for tourism services and the desire for outdoor' leisure encourage entrepreneurs to render varieties of businesses (Skuras *et al.*, 2003). Tourism activities contribute to the turnover of businesses, entrepreneurial profits, and revenue to the government through taxes and fees. The activities in the tourism sector also encourage transport entrepreneurship and retail businesses.

The FDI coefficient was positive and significant, implying that the presence of multinational firms in BRICS economies promotes latent entrepreneurship. This is consistent with the previous findings (Apostolov, 2017). The recent study of Rani *et al.* (2022) showed that foreign direct investments' impact on BRICS national entrepreneurship was positive and significant after assessing inward and outward versions of the FDI. The study used panel fixed and random effect model on data spanning over a period between 2002 and 2019. Outward FDI was negative while inward FDI was positive and significant, implying that inward FDI encourages entrepreneurial development in BRICS economies. It provides innovations and additional markets for young entrepreneurs. The coefficient of economic complexity suggests that it reduces latent entrepreneurship. This confirms the submission of the existing studies (Nguyen *et al.*, 2021). They suggest that after a certain threshold, economic complexity may reduce entrepreneurship, possibly due to the saturation of the entrepreneurs in the system, which lead to highly competitive forces. This action creates a potential threat to latent entrepreneurs and suppresses the inflow of new business creation (Ajide, 2022). The coefficient of economic growth was negative and significant. One possible reason could be the non-inclusive nature of the BRICS economies. This result was similar to the submission of previous authors (Munemo, 2018; Ajide, 2022). Moreover, the Wald test suggested that my model was significant in explaining the determinant of latent entrepreneurship in BRICS economies. The R-square further showed the explanatory power of the model. Overall, the estimations suggested that tourism promotes latent entrepreneurs in BRICS countries.

## CONCLUSIONS

This article is the first to examine the impact of tourism development on latent entrepreneurship in the group of BRICS countries. It contributes to the literature by providing a piece of fresh evidence on how the tourism sector may influence entrepreneurial aspirations. Based on the estimated results from the panel dynamic ordinary least square approach, I found that tourism development increases latent entrepreneurship in leading emerging economies. However, economic complexity does not spur latent entrepreneurship. Foreign direct investment promotes latent entrepreneurship in BRICS countries. The study concludes that the tourism sector contributes significantly to the development of entrepreneurship in BRICS nations. The findings of the study have theoretical and policy implications.

On theoretical implications, this study is one of the few studies that shed light on the nexus between tourism and entrepreneurship. The empirical evidence was timely, considering the current unprecedented growth of theoretical literature on entrepreneurship in emerging economies. Although the role of tourism on latent entrepreneurship was partially discussed, empirical studies of this nature are lacking. The novelty of this study focuses on the role of tourism activities within entrepreneurial ecosystems. It supports entrepreneurship analysis based on interdisciplinary approach.

In terms of policy implications, the study suggests that policymakers should concentrate efforts on improving the tourism sector to accelerate the pace of entrepreneurship development. The policy should include the provision of entrepreneurship education for the youth. Productive knowledge should be im-

proved and workshops for latent entrepreneurs may also help in accelerating entrepreneurship in BRICS economies. Bureaucratic procedures in getting a business registered and other bottlenecks should be simplified to create a conducive business environment. Enforcement of appropriate regulation tools, promotion of international best practices, and mechanism for proper implementation of the institutional framework will do well for the tourism sector and strengthen the entrepreneurial environment in BRICS economies. Mechanisms for tourism development should be properly implemented including efficient and friendly travelling policies, accommodation systems, and tour operations. This study showed that international tourism arrivals increase economic activities including production, consumption, and marketing entrepreneurial activities. Therefore, BRICS nations should take advantage of this development and accelerate the empowerment of youths. Tourism and trade policies such as inducement of special investment, tourism funding and provision of special grants for skills acquisition should be promoted.

One of the main limitations of this study relates to the issue of Covid-19 which might have changed the business models of most firms in BRICS's tourism sector. Moreover, the Ukraine-Russian crisis impacted the tourism industry negatively. It reduced the volume of tourism arrivals, increased fuel and food crises, and affected tourists' confidence. The author is unable to take this scenario into consideration due to the non-availability of data. Future studies are encouraged to overcome this shortcoming. More research should be conducted to examine the role of Covid-19 and the Russian invasion on Ukraine in the nexus between tourism and entrepreneurship.

## REFERENCES

- Abbasi, K.R., Lv, K., Radulescu, M., & Shaikh, A.P. (2021). Economic complexity, tourism, energy prices, and environmental degradation in the top economic complexity countries: fresh panel evidence. *Environmental Science and Pollution Research*, ahead of print, <https://doi.org/10.1007/s11356-021-15312-4>
- Ahmad, S.Z., Jabeen, F., & Khan, M. (2014). Entrepreneurs' choice in business venture: motivations for choosing home-stay accommodation businesses in Peninsular Malaysia. *International Journal of Hospitality & Management*. 36, 31-40.
- Ajide, F.M. (2022). Economic complexity and entrepreneurship: insights from Africa. *International Journal of Development Issues*, 21(3), 367-388. <https://doi.org/10.1108/IJDI-03-2022-0047>
- Ajide, F.M., & Soyemi, K.A. (2022). Oil rent, entrepreneurial start-ups, and institutional quality: Insights from African oil-rich countries. *Entrepreneurial Business and Economics Review*, 10(1), 35-49. <https://doi.org/10.15678/EBER.2022.100103>
- Ajide, F.M., Osinubi, T.T., & Dada, T.J. (2021). Economic globalization, entrepreneurship, and inclusive growth in Africa. *Journal of Economic Integration*, 36(4), 689-717, <https://doi.org/10.11130/jei.2021.36.4.689>
- Ajzen, I., & Fishbein, M. (1975). *Belief, Attitude, Intention and Behavior. An Introduction to Theory and Research*. Boston: Addison Wesley.
- Apostolov, M. (2017). The impact of FDI on the performance and entrepreneurship of domestic firms. *Journal of International Entrepreneurship* 15, 390-415 (2017). <https://doi.org/10.1007/s10843-017-0205-4>
- Asongu, S.A., Nwachukwu, J.C., & Orim, S-M.I. (2018). Mobile phones, institutional quality and entrepreneurship in Sub-Saharan Africa. *Technol Forecast Soc Change*, 131(1),183-203. <https://doi.org/10.1016/j.techfore.2017.08.007>
- Barraza, C. (2018). The entrepreneurial process. Retrieved from <https://barrazacarlos.com/entrepreneurial-process-stages> on May 22, 2019.
- Chambers, D., & Munemo, J. (2019). Regulations, institutional quality and entrepreneurship. *Journal of Regulatory Economics*, 55(1), 46-66. <https://doi.org/10.1007/s11149-019-09377-w>
- Coulibaly, S.K., Erbao, C., & Mekongcho, T.M. (2018). Economic globalization, entrepreneurship, and development. *Technological Forecasting and Social Change*, 127, 271-280. <https://doi.org/10.1016/j.techfore.2017.09.028>
- Cristache, N., Soare, I., Nastase, M., & Antohi, V.M. (2021). Integrated approach of the entrepreneurial behaviour in the tourist sector from disadvantaged mountain areas from Romania. *Environment, Development and Sustainability*, 24, 5514-5530, <https://doi.org/10.1007/s10668-021-01669-6>




- Dias, A., Patuleia, M., Silva, R., Estêvão, J., & González-Rodríguez, R.M. (2021). Post-pandemic recovery strategies: revitalizing lifestyle entrepreneurship. *Journal of Policy Research in Tourism, Leisure and Events*, ahead-of-print, <https://doi.org/10.1080/19407963.2021.1892124>
- Doing Business (2020). *Doing Business Report 2020*. World Bank Group.
- Eisenhauer, J.G. (1995). The entrepreneurial decision: Economic theory and empirical evidence. *Entrepreneurship Theory and Practice*, 19(4), 67-79.
- Fatoki, O.O., & Chindoga, L. (2012) Triggers and Barriers to Latent Entrepreneurship in High Schools in South Africa. *Journal of Social Sciences*, 31(3), 307-318, <https://doi.org/10.1080/09718923.2012.11893040>
- Filipiak, Z.B., Dylewski, M., & Kalinowski, M. (2021). Economic development trends in the EU tourism industry. Towards the digitalization process and sustainability. *Quality & Quantity*, ahead of print, <https://doi.org/10.1007/s11135-020-01056-9>
- Ferreira, B., Morais, D.B., & Brothers, G.L. (2019). Enhancing self-efficacy to enable tourism microentrepreneurship: A quasi-experiment. *Journal of Teaching in Travel & Tourism*, 19(4), 341-359.
- Fuller-Love, N., Midmore, P., Thomas, D., & Henley, A. (2006). Entrepreneurship and rural economic development: a scenario analysis approach. *International Journal of Entrepreneurial Behavior & Research*, 12(5), 289-305. <https://doi.org/10.1108/13552550610687655>
- Fu, H., Okumus, F., Wu, K., & Köseoglu, A.M. (2019). The entrepreneurship research in hospitality and tourism. *International Journal of Hospitality Management*, 78, 1-12.
- Global Entrepreneurship Index (GEDI). (2020). Global Entrepreneurship Index. The Global Entrepreneurship and Development Institute. Retrieved from <https://thegedi.org/global-entrepreneurshipand-development-index> on May 22, 2019.
- Global Entrepreneurship Monitor Report. (2019). Global Entrepreneurship Monitor (GEM), London, UK. Retrieved from <https://www.gemconsortium.org/report> on July 20, 2022.
- Gomes, S., & Ferreira, P. (2022). Entrepreneurial activity and economic growth: A dynamic data panel analysis of European countries. *Entrepreneurial Business and Economics Review*, 10(2), 7-20. <https://doi.org/10.15678/EBER.2022.100201>
- Irvine, W., & Anderson, A.R. (2004). Small tourist firms in rural areas: agility, vulnerability and survival in the face of crisis. *International Journal of Entrepreneurial Behavior & Research*, 10(4), 229-246. <https://doi.org/10.1108/13552550410544204>
- Linan, F., & Chen, Y. (2006). Testing Entrepreneurial Intention Model on a Two Country Sample. Retrieved from <http://www.emeraldinsight.com/journal> on February 15, 2012.
- Le Trinh, T. (2019). Factors affecting startup performance of small and medium-sized enterprises in Danang city. *Entrepreneurial Business and Economics Review*, 7(3), 187-203. <https://doi.org/10.15678/EBER.2019.070310>
- Mark, N.C., & Sul, D. (2003). Cointegration vector estimation by panel DOLS and long-run money demand. *Oxford Bulletin of Economics and Statistics*, 65(5), 0305-9049.
- Mishra, C.S., & Zachary, R.K. (2014). *The Theory of Entrepreneurship*. New York, NY: Palgrave Macmillan. <https://doi.org/10.1057/9781137371461>
- Munemo, J. (2018). Entrepreneurial success in Africa: how relevant are foreign direct investment and financial development?. *African Development Review*, 30(4), 372-385.
- Nguyen, C.P., Nguyen, B., Tung, B.D., & Su, T.D. (2021). Economic complexity and entrepreneurship density: a non-linear effect study. *Technological Forecasting and Social Change*, 173, 121107, ahead-of-print. <https://doi.org/10.1016/j.techfore.2021.121107>
- Tleuberdinova, A., Shayekina, Z., Salauatova, D., & Pratt, S. (2021). Macro-economic Factors Influencing Tourism Entrepreneurship: The Case of Kazakhstan. *The Journal of Entrepreneurship*, 30(1), 179-209.
- Pedroni, P. (1999). Critical values for cointegration tests in heterogeneous panels with multiple regressors. *Oxford Bulletin of Economics and Statistics*, 61(s1), 653-670.
- Pedroni, P. (1997). *Fully modified OLS for heterogeneous cointegrated panels and the case of purchasing power parity*, Department of Economics, Indiana University, mimeo

- Polukhin, A., Marina S., Marina E., Oxana S., Oksana A., & Anton, A.O. (2021). The Concept of Sustainable Rural Tourism Development in the Face of COVID-19 Crisis: Evidence from Russia. *Journal of Risk and Financial Management*, 14(38). Ahead of print, <https://doi.org/10.3390/jrfm14010038>
- Rani, R., & Kumar, N. (2021). The dynamics of link between entrepreneurship, government support and economic growth: Evidence from BRICS countries. *Journal of Public Affairs*, ahead-of-print, <https://doi.org/10.1002/pa.2741>
- Rani, R., & Kumar, N. (2022). Does Foreign Direct Investment Facilitate Entrepreneurial Activities? Evidence from BRICS Countries. *FII Business Review*, ahead-of-print, <https://doi.org/10.1177/23197145221078651>
- Ripsas, S. (1998). Towards an interdisciplinary theory of entrepreneurship. *Small Business Economics*, 10(2), 103-115.
- Rodríguez-Aceves, L., Saiz-Alvarez, J.M., & Muñiz-Avila, E. (2019). Why latent entrepreneurs delay their launch to the market in Mexico?. *International Journal of Entrepreneurship and Small Business*, 38(3), 339-358.
- Rosser, J.B. (2010). Is a transdisciplinary perspective on economic complexity possible?. *Journal of Economic Behavior and Organization*, 75(1), 3-11.
- Rubbo, P., Picinin, C.T., & Pilatti, L.A. (2021). Innovation and economic complexity in BRICS'. *International Journal of Knowledge Management Studies*, 12(1), 66-79.
- Schumpeter, J.A. (1934). *The Theory of Economic Development: An Inquiry into Profits, Capital, Credit, Interest, and the Business Cycle*. New York: McGraw-Hill.
- Skuras, D., Caldas, J.C., Meccheri, N., Psaltopoulos, D., & Viladomiu, L. (2003). Institutional support to strategic business orientations: an empirical analysis of rural businesses in four countries of southern Europe. *European Business Review*, 15(4), 235-244.
- Shapiro, A., & Sokol, L. (1982). The social dimensions of entrepreneurship. *Encyclopedia of Entrepreneurship* 4(2), 72-90.
- Stock, J., & Watson, M. (1993). A simple estimator of cointegrating vectors in higher order integrated systems. *Econometrica*, 61(4), 783-820.
- Subramaniam, Y., & Masron, T.A. (2021). The impact of tourism on entrepreneurship in developing countries. *Business Strategy & Development*, 1-12. Ahead of print. <https://doi.org/10.1002/bsd2.187>
- Usmani, G., Akram, V., & Praveen, B. (2020). Tourist arrivals, international tourist expenditure, and economic growth in BRIC countries. *Journal of Public Affairs*. 2020;e2202. <https://doi.org/10.1002/pa.2202>
- World Travel & Tourism Council. (2012; 2015). *Travel & Tourism Economic Impact*. World, London: World Travel & Tourism Council.

**Author****Folorunsho M. Ajide**

Lecturer in Economics, Faculty of Social Sciences, University of Ilorin, Ilorin, Nigeria. PhD in Economics from Obafemi Awolowo University, Ile-Ife, Nigeria. His research interest includes the economics of entrepreneurship, the economics of crime, industrial economics, and financial economics.

**Correspondence to:** Dr. Folorunsho M. Ajide, P.M.B. 1515, Ilorin, Kwara State, Nigeria; e-mail: [ajide2010@gmail.com](mailto:ajide2010@gmail.com) or/ and [ajide2010@yahoo.com](mailto:ajide2010@yahoo.com)

**ORCID**  <http://orcid.org/0000-0003-3231-2423>

**Acknowledgements and Financial Disclosure**

The author would like to thank the editors of this journal and the anonymous referees for their useful comments which have been used to increase the value of this article. This research received no specific grant from any funding agency in the public, commercial, or not-for-profit sectors.

**Conflict of Interest**

The author declares that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

**Copyright and License**

This article is published under the terms of the Creative Commons Attribution – NoDerivs (CC BY-ND 4.0) License  
<http://creativecommons.org/licenses/by-nd/4.0/>

Published by Cracow University of Economics – Krakow, Poland



Ministry of Education and Science  
Republic of Poland

The journal is co-financed in the years 2022-2024 by the Ministry of Education and Science of the Republic of Poland in the framework of the ministerial programme “Development of Scientific Journals” (RCN) on the basis of contract no. RCN/SP/0583/2021/1 concluded on 13 October 2022 and being in force until 13 October 2024.

# From here to eternity: An empirical analysis of the goal system of family wineries

Nóra Vajdovich, Balázs Heidrich, Szilárd Németh, Krisztina Németh

## ABSTRACT

**Objective:** The objective of the article is to gain insight into and analyse the goals of Hungarian family business wineries.

**Research Design & Methods:** Basco's model of family business goals dimensionality constituted the basis of the research. After analysing Basco's four dimensions, the goals were examined according to a new model to gain a deeper insight into the antecedents and driving forces of firm-wide goals. The main design of the study was qualitative and the research sample size and the number of interviews was 21. The analysis tool was the NVivo 12 software.

**Findings:** The research supports evolutionary features already described in the literature to be faced by Hungarian family businesses. An important conclusion of the study is that issues relating to innovation, awareness, growth, and development almost exclusively concern products, services, and more sustainable use of natural resources. The research did not identify development goals relating to management or governance.

**Implications & Recommendations:** Owners and managers, especially from the second generation, should focus much more on the development plans for their companies. No short- or medium-term development plans were found in the wineries studied.

**Contribution & Value Added:** A further elaborated model of the Basco multidimensional goal model was developed based on the empirical study. Furthermore, four managerial dilemmas were identified to have a definitive impact on the future development of mainly first-generation family business wineries.

**Article type:** research article

**Keywords:** family business; economic and non-economic goals; wine sector

**JEL codes:** L21, L25, L26

Received: 25 January 2022

Revised: 30 October 2022

Accepted: 1 December 2022

## Suggested citation:

Vajdovich, N., Heidrich, B., Németh, Sz., & Németh, K. (2022). From here to eternity: An empirical analysis of the goal system of family wineries. *Entrepreneurial Business and Economics Review*, 10(4), 155-179. <https://doi.org/10.15678/EBER.2022.100410>

## INTRODUCTION

One way to understand family businesses that constantly change is to uncover and evaluate the goals and motivations behind their decisions. In the case of family business goals, family businesses differ from non-family businesses in that family goals appear alongside economic goals (Chua *et al.*, 1999; Kotlar-De Massis, 2013; Kotlar *et al.*, 2014). A family is a relationship-based group in which members are related to each other by kinship and shared norms (Stewart, 2003). Accordingly, a change in any of their relationships can affect the whole association (Cox-Paley, 1997).

Examining and understanding the goals of family firms is particularly important, because goals determine family firms' willingness to act (Williams *et al.*, 2018). Goals also influence strategic decisions and family firms' behaviour (De Massis *et al.*, 2018). A family firm's goals are where the family firms are different from the traditional ones. (Chrisman *et al.*, 2012).

Family businesses can survive in the long term due to their resilience (Wilson *et al.*, 2013). However, international literature shows that a large part of family firms does not survive the first generational transitioning. These two contrasting characteristics originate from the uniqueness of family firms. On the one hand, they can use their family embeddedness, knowledge, and specificity as a resource in a flexible way, and thus are able to survive successfully in the long run. On the other hand, it is this flexibility that allows them to turn those same resources against themselves, which is the reason why in many cases these types of businesses disappear.

Basco (2017) developed his own model to measure the goals of family businesses. According to him, goals follow two different logics: family logic and business logic. In his research, he sought to answer how the two logics interact: he treats family business goals as a multidimensional concept shaped by economic and social considerations. In his model, four aspects (goals) are combined: the economic with the non-economic and the family with the business ones. He developed his research model to examine the interrelationships among the four interrelated factors.

In this article, we will examine how Hungarian family wineries can synchronise long-term orientation and short-term decision-making dictated by the market economy in their attempts to achieve success. Our research was based on the Basco baseline model. The questions developed from the model were used during semi-structured interviews conducted with 21 Hungarian wineries.

Our research seeks to reveal how the short and long-term goals of family businesses in the Hungarian wine sector shape the operation of such firms. We examined how the conscious development of goals, or the lack thereof, is related to the long-term success of family businesses and how this conscious development or its lack affects governance, management, and decision-making.

Our basic assumption was that wineries are good examples of family businesses, as we see it also in the study of Murinova (2017) concerning the family wine industry in the Czech Republic, the socio-emotional and inheritable assets that can act as resources for sustainability. For this study, we sought to look into a sector where we could demonstrate a path to sustainability, its difficulties, challenges, and its beauty.

Family heritage, the dynastic pattern, and the love and knowledge of vines and/or nature are passed down from parent to child (Pacheco, 2019). The synergetic cooperation between generations, the conscious transfer of knowledge and skill sets, and the ability to share work and experience, *i.e.* intergenerational knowledge sharing (Woodfield-Husted, 2017), can also be observed in these businesses.

The development of the business, the choice of a strategy, and governance issues – as also described in the study of Broccardo *et al.* (2015) – the conscious training and involvement of the next generations in the business are all challenges. Similar challenges are presented by the ability to innovate and adapt technological improvements, because tradition and innovation are also values in focus for family businesses (Voronits *et al.*, 2016). At the same time, we also observed problems and difficulties presented by balancing between the family and the business, as well as by parallel planning and decisions concerning short and long-term goals.

Wine businesses are heterogeneous in size, age, and management, making the wine sector suitable for observing and analysing the economic, environmental, social, and family aspects of the businesses known from the literature. In this study, we attempt to analyse the specific aspects of the family wine sector. To our knowledge, there is a low number of studies on family businesses in Central-Eastern Europe, furthermore, the analysis of wineries' organizational goals seems practically nonexistent in this region.

The aim of this research is to produce a holistic and comprehensive report on the goal systems of family businesses in the Hungarian wine sector, so that – through their goals – we can understand their plans and difficulties.

In the first part of our study, which applies the selective literature review method (Yin, 2016), we will present the theoretical background of the model on which our research is based, *i.e.*, the Basco model (2017). Then we will proceed to explore the situation of family wineries in the Hungarian wine industry and the methodology of our explorative qualitative research. Finally, we will provide the analysis and evaluation of the results obtained.

## LITERATURE REVIEW

### Family Businesses' Goals and the Basco Model

Businesses have various parallel goals. The goals of family businesses differ significantly from those of non-family businesses because of family involvement. In family businesses – in addition to economic goals – family goals are also likely to be met (Basco, 2017). The multiplicity of goals is a consequence of the overlap among family, ownership and entrepreneurship (Kotlar *et al.*, 2014). As a matter of fact, because of its dominance, the family can influence decisions and enforce family goals (Habbershon-Williams, 1999). Furthermore, the consequence of the individual values and experiences of families is that each family business has its own specific set of goals (Zellweger *et al.*, 2013).

The categorisation of family business goals was approached in many ways. Many distinguish between goals as being family- or business-oriented (Singer-Donoho, 1992). According to Tagiuri-Davis (1992), goals are in a constant state of change according to the needs of the family and the business and they are the result of the interaction of the two sub-units.

The purpose of a family business rests on two different pillars: achieving economic and non-economic goals. A separate and combined analyses of these two dimensions are necessary to understand the functioning of family businesses.

The family business goal system is a system that develops and operates on several levels (Figure 1). The starting points, also known as the antecedents of goals, are the individual, group, organisational, and institutional levels. In the case of family businesses, individual goals refer not only to the goals of the members of the organisation, but also to the goals of each member of the family dimension (along the three-circle model, Tagiuri-Davis, 1992). The goals of the enterprise appear alongside the common family goals of the family owning the given business.

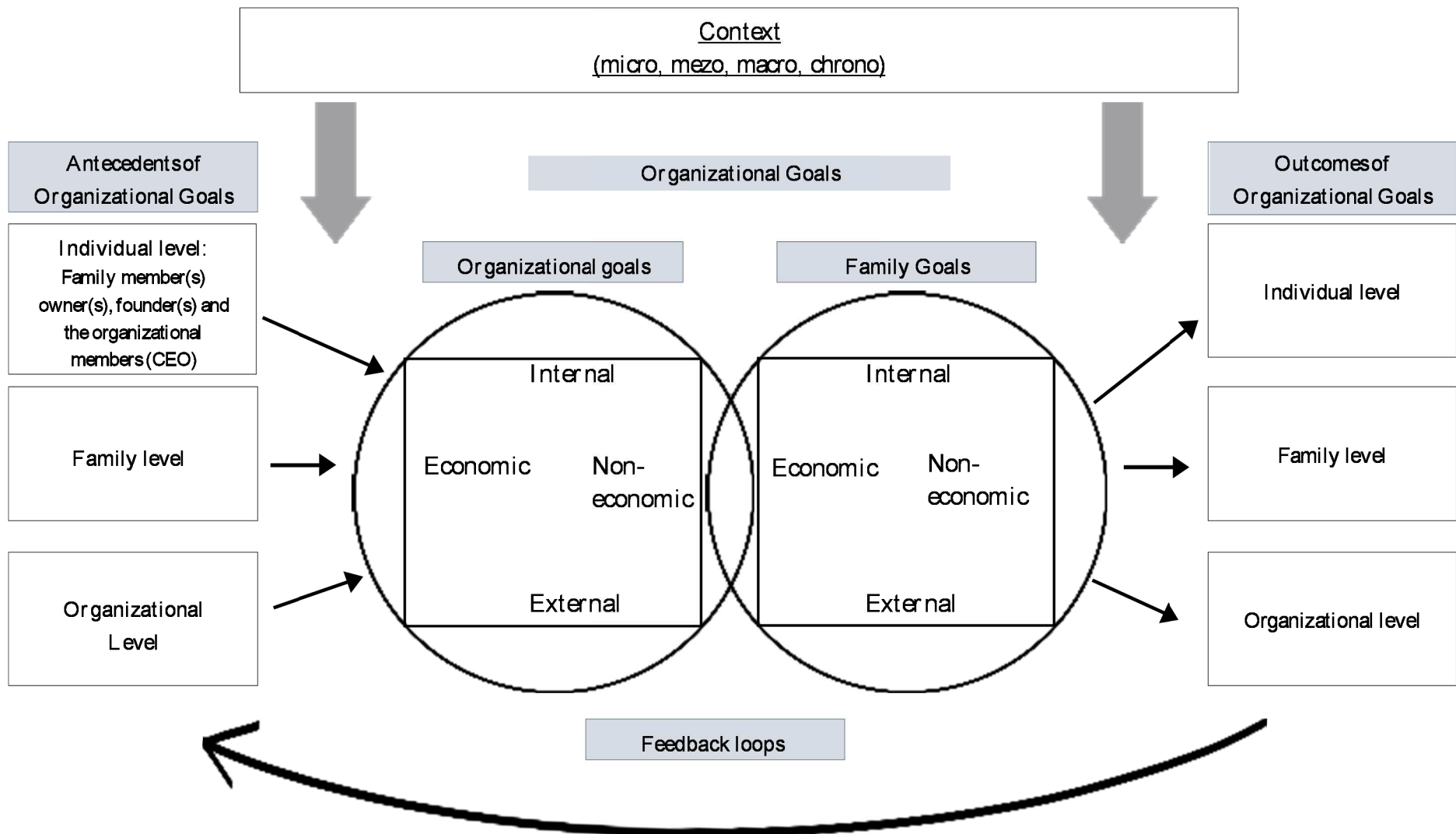
Basco's (2017) study is based on institutional logic (Friedland-Alford, 1992). According to the study, individuals are embedded in an organisation, which exhibits its own cognitive, structural, and emotional ordering principles known to the individual. When collective identities are institutionalized within a group, a specific institutional logic is generated. Accordingly, the embeddedness of individuals in the family business can act as a determining power. A specific triple logic – business, community, and family – is created which influences individuals. These three dimensions guide the actions of individuals in family businesses.

According to this interpretation, the blurred boundaries among family, business, and the external environment create the goals that emerge at an enterprise level. Therefore, the goals of family firms do not only combine the traditional distinction between economic and non-economic considerations in relation to stakeholders. As the group with power over the business, the family as owner invests not only economic resources but also social and emotional resources. Thus, we can also distinguish between goals based on family and business logic (Table 1).

The family has a multi-directional influence on the formation of goals, as the individuals within the family have different goals. This, in turn, can determine and change the goals of the family business based on the respective positions of the family members concerned (Kotlar-de Massis, 2013).

Williams *et al.* (2018) highlight the possibility of conflicting family and business goals. It is a natural phenomenon in any business that goals often conflict or even cancel each other out. However, in the case of family businesses, the possibility of conflicting goals is potentially greater due to the conflicting goals of the family and the business (Williams *et al.*, 2018). There can be divergent individual goals between family and other stakeholders, between non-family owners and family owners, between family and non-family members in leadership positions, and even among family member owners.

The economic goals of family businesses are extremely important from the aspect of the company, but often sub-optimal financial performance is also acceptable to the family (Astrachan, 2010). A company has non-economic goals as well, which may be embodied in product and service development, but also in environmental sustainability objectives.



**Figure 1. Organizational goals of family businesses**  
 Source: Heidrich and Vajdovich (2021).

**Table 1. The dimensionality of family business goals**

Dimensions	Business-oriented	Family-oriented
<b>Economic-oriented</b>	<b>Business-oriented economic goals</b> Financial economic	<b>Family-oriented economic goals</b> Family security Family income and family financial security Desirable lifestyle
<b>Non-economic oriented</b>	<b>Business-oriented non-economic goals</b> Environmental sustainability Product and service development Operational	<b>Family-oriented non-economic goals</b> Family Harmony Community image and reputation Family legacy

Source: Basco, 2017, p. 5.

In family businesses, the basis for the company’s non-economic goals derives from the socio-emotional assets of the company, which influence its goals, decisions, and governance. Accordingly, firms make their decisions while keeping in mind their value reference point and their operating principles. Because of these fundamental features, they can take decisions critical from a business point of view but can maintain the degree of family embeddedness. In contrast, socioemotional wealth, as formulated by Gomez-Meija *et al.* (2007), is a broader approach that includes the exercise of power by family members, family influence, identification with the firm, and deep-rooted internal psychological bonds connecting the family (the individuals) and the firm. Thus, socio-emotional wealth also fundamentally affects the decision-making mechanism and can therefore have both positive and negative effects on business performance (Habbershon–Williams, 1999).

Freeman’s (1994) stakeholder theory points out that non-economic goals are likely to play a prominent role in family businesses because specific non-economic goals of the dominant stakeholder group (the family) – such as family harmony, social status – significantly influence the behaviour and decisions of the business (Zellweger-Nason, 2008).

**Table 2. New dimensionality of family business goals**

Orientation		Business-Family Orientation	
		Business-oriented	Family-oriented
<b>Economic- Noneconomic orientation</b>	<b>Short-term</b>	<b>SHORT-TERM BUSINESS ORIENTED GOAL</b> Sales growth Market share Net profit Cash flow Sales ratio Return on investment	<b>SHORT-TERM FAMILY ORIENTED GOAL</b> Money available for family Quality of life at work Firm generated family security Time to be with family
	<b>Long-term</b>	<b>LONG-TERM BUSINESS ORIENTED GOAL</b> Product development Market development	<b>LONG-TERM FAMILY ORIENTED GOAL</b> Respected name in society Good reputation in the business community
	<b>Stewardship</b>	<b>STEWARDSHIP BUSINESS ORIENTED GOAL</b> Adapting to client needs Staff development Environmental protection Customer satisfaction Service quality	<b>STEWARDSHIP FAMILY ORIENTED GOAL</b> Family loyalty and support Family unity Family interest in the enterprise Development of children’s skills Generate possibilities for children

Source: Basco, 2017, p. 8.



As a result of Basco's (2017) research, economic and non-economic characteristics were further modified. Thus, Basco distinguishes between short-term and long-term orientations (goals), and goals related to various stakeholder groups. The results of the Basco measurement are illustrated in the following table (Table 2).

After presenting the theoretical background, we will move on to the general characteristics of the Hungarian wine sector, which sheds light on the conditions under which family wineries operate in the wine regions of Hungary.

### Background and Topicality of Research: Family Businesses in the Hungarian Wine Sector

The wine industry is a special branch of the food industry with strong links to viticulture on which it is based. Soil, vintage, varietal, and cultivation factors are all reflected in the wine in a modified form, and the good quality grapes can be turned into a truly high-quality wine only through skilled winemaking.

Links in the winemaking technology chain include winemaking, wine treatment, ageing, bottling, and bottle ageing, all of which must be carried out professionally to create excellent wines.

Wine has always been part of the culture in Hungary. It has not only provided a livelihood for many Hungarian families for hundreds of years, but Hungary also has many traditions linked to wine production (Obermayer *et al.*, 2021). This is evidenced by the introductory text on the Szepsy family's website (one of the interviewees): 'Our family has been producing wine in Tokaj since the 1500s when the production of "aszú" wine started. So the history and life of the family and wine are inseparable. Today's generations are proud of their ancestors' achievements, which inspire them to become worthy of their tasks. Our aim is to produce the best quality grapes in our vineyards without compromise.' In 2020, the area planted with wine grapes was 62.734 hectares.

Table 3. Area planted with wine grapes in Hungarian wine districts (ha)

Hungarian Wine Regions	Y E A R S						Notes
	2015	2016	2017	2018	2019	2020	
Badacsony	1425	1423	1402	1396	1405	1326	■ ■ ■ ■ ■ ■
Balatonboglár	3264	3301	3420	3504	3551	3450	■ ■ ■ ■ ■ ■
Balatonfelvidék	833	849	865	865	831	751	■ ■ ■ ■ ■ ■
Balatonfüred-Csopak	1973	2055	2027	2029	2010	1854	■ ■ ■ ■ ■ ■
Bükk	970	1017	1019	1014	1011	873	■ ■ ■ ■ ■ ■
Csongrád	1119	1140	1080	1049	1020	941	■ ■ ■ ■ ■ ■
Eger	5338	5423	5609	5677	5723	5652	■ ■ ■ ■ ■ ■
Etyek-Buda	1509	1519	1587	1616	1652	1696	■ ■ ■ ■ ■ ■
Hajós-Baja	1942	1912	1855	1849	1871	1837	■ ■ ■ ■ ■ ■
Kunság	20377	20651	20773	21014	20983	20354	■ ■ ■ ■ ■ ■
Mátra	5985	6288	6401	6539	6633	6238	■ ■ ■ ■ ■ ■
Mór	571	585	582	539	555	492	■ ■ ■ ■ ■ ■
Nagy-Somló	558	567	564	571	557	514	■ ■ ■ ■ ■ ■
Neszmély	1453	1358	1081	1096	1032	958	■ ■ ■ ■ ■ ■
Pannonhalma	638	665	639	641	628	593	■ ■ ■ ■ ■ ■
Pécs	663	674	676	656	639	581	■ ■ ■ ■ ■ ■
Sopron	1631	1642	1673	1629	1630	1524	■ ■ ■ ■ ■ ■
Szekszárd	2234	2202	2224	2248	2289	2220	■ ■ ■ ■ ■ ■
Tokaj	5716	5755	5757	5775	5814	5478	■ ■ ■ ■ ■ ■
Tolna	2420	2441	2422	2482	2288	2302	■ ■ ■ ■ ■ ■
Villány	2488	2479	2464	2482	2449	2390	■ ■ ■ ■ ■ ■
Zala	833	843	841	828	826	711	■ ■ ■ ■ ■ ■
<b>SUM</b>	<b>63 942</b>	<b>64 790</b>	<b>64 961</b>	<b>65 476</b>	<b>65 397</b>	<b>62 734</b>	■ ■ ■ ■ ■ ■

Source: National Council of Mountain Villages (HNT) database, own elaboration.

The average cultivated area in the case of Hungarian wine regions is 2.850 hectares with only the Balatonboglár, Eger, Kunság, Mátra, and Tokaj wine regions having a larger area than average. This also highlights one of the problems that is critical to the Hungarian wine sector: namely the fragmentation of the area and the significant regional differences between the wine regions.

Hungarian wine export significantly exceeds the volume and value of wine imports, so the external trade balance for wine is positive. Hungary is a small wine-producing country with highly diversified wine-growing areas, which offer market opportunities (HNT, 2016).

According to Tóth (2012), wine trends in the world market point towards knowledge-intensive and sophisticated wine segments, premium and super-premium wines. However, Tóth (2012, p. 49) also points out in his study that 'Hungary lagged behind this trend in the last decade. ... while the use and diffusion of knowledge are a significant factor in the diversity of various enterprises ... it can also be concluded that Hungarian [wine] enterprises can achieve market success through the innovative nature of the enterprise as a whole, the diffusion of knowledge accumulated in the wine sector through daily contacts, and innovative management of enterprise processes.'

In the case of Hungarian wine regions and wine businesses, the conditions of the infrastructure can be considered unfavourable and this observation holds true for more successful businesses as well. In terms of communications infrastructure, Hungary caught up relatively quickly with its competitors. The sector needs skilled labour (at least at a secondary level), but there is currently a shortage of skilled labour. More profitable wine businesses are no exception in this respect. There is specialised knowledge in the sector, which is identified by businesses as a market advantage. Non-institutionalised knowledge flow among businesses in wine regions is not common, yet competitors do not appear to be enemies, as there is a significant flow of information among them. Mutual knowledge sharing with suppliers is more significant and more evident than with competitors.

Hofmeister-Tóth-Durrieu (2008) conducted a mixed-methods study on the relationships among marketing orientation, strategy orientation and marketing strategies in French (n=131) and Hungarian (n=66) wineries. The main finding is that information collection has a positive effect on the development of communication and target market strategies: difficulties involved in information seeking have a positive effect on image strategy, and planning has a positive effect on communication and target strategies. Noteworthy, one of the researchers comments that 'the majority of Hungarian wineries are family businesses, where management is usually limited to one person' (Hofmeister-Tóth-Durrieu, 2008, p. 127).

The research conducted by Komáromi-Lehota (2004) and based on a questionnaire survey of Hungarian wineries (minimum area: two hectares), revealed the following correlations in the operation of the vineyard and winery enterprises studied: within the environmental orientation, there is a strong technological orientation, while consumer and customer orientation lags behind and competitive orientation is even more behind. The main constraints to market orientation within the company are limited information available and the lack of specialists, due to the small size of the company and the lack of an organised information collection system. Long-term orientation is typically low, planning extends mainly to annual periods or even to a shorter span, and strategic planning is rare.

It follows from the above that the study of goal systems is virtually nonexistent in the research of the wine sector and our research aims to fill this gap. The next part of our study describes the methodology used in the research.

## RESEARCH METHODOLOGY

The first step in selecting the sample was to clarify the definition of a family business. When selecting family businesses, for the purpose of a sampling criterion, we used a definition postulated by Budapest Business School's Lab Entrepreneurship Centre in 2019 (Kása *et al.*, 2019). Accordingly, we consider as family enterprises those enterprises that:

1. consider themselves a family business, or
2. where at least 50% of the company is owned by at least one family, or
3. the family is involved in the management of the business, or
4. the family members are involved in the company's operations as employees, or

5. the transfer of management and ownership takes place partly or entirely within the family.

We chose to conduct our research using qualitative methodology, because this framework best fits our research purpose. Qualitative research design is characterized by the following features: 'the final written report has a flexible structure. Those who engage in this form of inquiry support a way of looking at research that honours an inductive style, a focus on individual meaning, and the importance of rendering the complexity of a situation' (Creswell, 2009, p. 22). We wanted to collect our data through face-to-face interviews, because our aim was to comprehend and explore the issue under scrutiny and to understand the phenomenon most thoroughly using this method. With our primary research, we were able to gather information directly, through primary surveys, about actors in family businesses in the wine industry. We were able to observe their behaviour, to find out the views of relevant people in the sector on their economic and non-economic objectives and their practices related to sustainability.

In line with Creswell (2009, p. 125), who writes: 'in a qualitative study, inquirers state research questions, not objectives (*i.e.*, specific goals for the research) or hypotheses (*i.e.*, predictions that involve variables and statistical tests),' based on our explorative qualitative research design, and in line with the rules of the qualitative research paradigm, we defined the following research questions:

**RQ1:** What are the economic goals of Hungarian family wineries?

**RQ2:** What are the non-economic goals of Hungarian family wineries?

**RQ3:** What are the so-called socio-emotional factors that are critical to the successful achievement of family wineries' goals?

The interviewees were selected using the snowball method with the first family wineries being selected from among direct and indirect acquaintances, while the other family wineries included in the research were selected based on recommendations. We contacted family wineries that identified themselves as family businesses, irrespective of the size of the business or the number of generations working in the business.

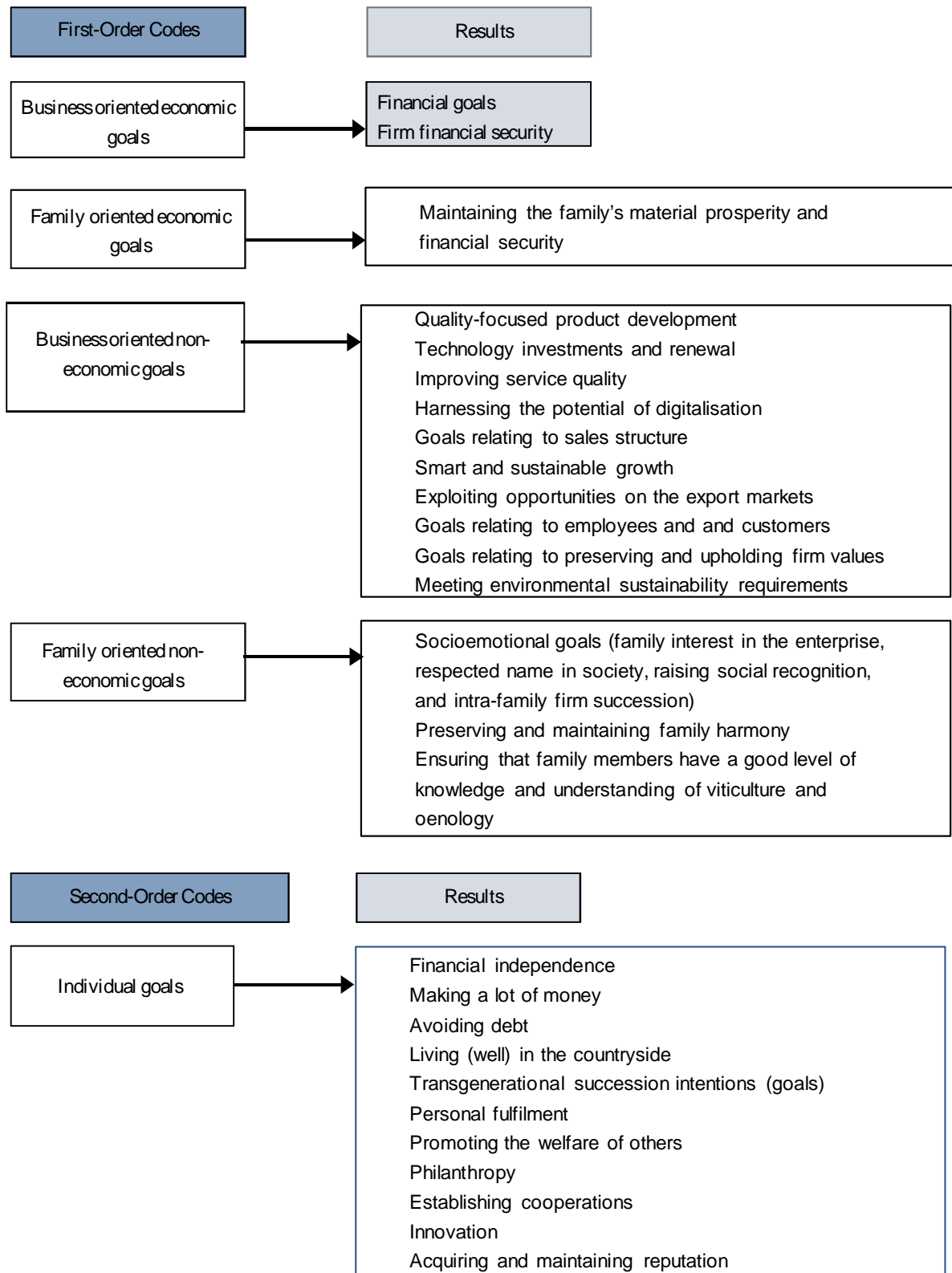
According to Kvale (1996), when selecting a sample, researchers can use their intuition, knowledge, and expertise, and in line with this, we tried to find respondents who were as relevant as possible to our research. Thus, in our research, we used partly arbitrary sampling and partly the snowball technique. When selecting the wineries, we aimed to have both founders and members of the second generation among our interviewees, to have both female and male winemakers, and to have only one representative from a family at the interview. This last criterion was not met in one case when the founder (the father) and the current manager both joined our interview.

At the beginning of our research, it became clear that the turnover of the enterprises would not be relevant for determining the size of the firms, because family wineries typically consist of several different firms operating parallel to one another, *i.e.*, as a group of companies. Thus, the size of the cultivated area as a firm demographic criterion expresses the firm size in hectares. Our original plan was to conduct the interviews in person in the form of oral interviews at a previously agreed time and date. However, out of the 21 interviews conducted, only the first six could be carried out in person due to the pandemic. Thus, the remaining interviews were conducted online.

### Data Analysis

The obtained research data were structured, coded, and the resulting texts were analysed using the NVivo 12 software. Firstly, the primary codes were identified based on the literature. The codes were further broken down into subcodes and then the texts were coded independently by members of the research team according to these codes. After several readings, additional provisional codes were created, because some data did not fit into any of the predefined codes. In total, seven major code groups and 33 subcodes were created in the first round.

Secondly, the codes were integrated, which means that the groups were merged, linked, and aggregated codes were created based on our results (Figure 2). When forming the final code system, we strove to aggregate the subcategories. We looked at in what ways the various topics fit together and in what ways they overlap.



**Figure 2. The code structure of the research**

Source: own elaboration.

In addition to code creation, the data defined by the research team were separately classified (*e.g.*, socio-demographic data, region (wine region), gender, education, size of production area, family business life cycle: founder, successor, founder active/inactive) and used in the analysis of the sample.

### Sample

The 21-item sample established using the snowball technique fulfilled our expectations of diversity with respect to qualitative research, as the sample included family wineries from all seven Hungarian wine regions (Soproni, Észak-dunántúli, Balatoni, Pannon, Dunai, Egri and Tokaji wine regions) and we feel we have reached saturation and a full understanding of the participant's perspective (Legard *et al.*, 2003). After the eighteenth interview, it became obvious that new themes would not be generated from the interviews. Therefore, we established that the data collection had reached a saturation point. We continued data collection for three more interviews to be sure that there were no new themes emerging. In accordance with Saunders *et al.* (2018, p. 1901), 'for completeness, we chose to fully recruit to all participant groups to reduce the chance of missed themes.' A total of 21 interviews were conducted with first, second, or third-generation family wineries from 10 wine districts in Hungary. The size of the holdings in the sample ranged from 2.5 ha to 110 ha, and we were able to interview both male and female winemakers. A typical common feature of the sampled enterprises was that in all cases the founder of the enterprise was still an active participant (and it was also typical that a family member was responsible for winemaking in the enterprise) (Table 4).

**Table 4. Presentation of sample**

Wine district	Founder	Winemaker	Size of cultivation area	Interview code	Generation
Balatonboglár	Active	Family member	<20 ha	B20	1
Csongrád	Active	Family member	21-60 ha	B1	2
Eger	Active	Non-family member	61-120 ha	B2	2
Hajós-Baja	Active	Family member	<20 ha	B16	1
Hajós-Baja	Active	Family member	21-60 ha	B13	1
Hajós-Baja	Active	Family member	61-120 ha	B11	1
Mátra	Active	Family member	21-60 ha	B10	3
Mór	Active	Family member	<20 ha	B17	1
Pannonhalma	Active	Family member	<20 ha	B3	2
Pannonhalma	Active	Family member	21-60 ha	B5	2
Pannonhalma	Active	Non-family member	21-60 ha	B4	1
Szekszárd	Active	Family member	<20 ha	B7	2
Szekszárd	Active	Family member	21-60 ha	B18	2
Szekszárd	Active	Family member	61-120 ha	B21	2
Tokaj	Active	Family member	<20 ha	B14	1
Tokaj	Active	Family member	<20 ha	B15	1
Tokaj	Active	Family member	<20 ha	B19	2
Tokaj	Active	Family member	21-60 ha	B12	2
Villány	Active	Family member	<20 ha	B6	1
Villány	Active	Family member	21-60 ha	B9	3
Villány	Active	Family member	61-120 ha	B8	2

Source: own study.

Concerning the characteristics of the sampled enterprises, it is also important to highlight that several of them were partially or fully engaged in organic or biodynamic viticulture and, in the case of several families, their attachment to viticulture and winemaking also means the cultivation of regional centuries-old family and wine traditions.

## RESULTS AND DISCUSSION

The function of family businesses rests on two pillars: economic and non-economic goals. It is necessary to examine these two dimensions separately and together to understand the functioning of enterprises. An examination of the interaction between corporate and family orientation and their impacts on the activities of the company can help us understand the goals of family businesses.

The Basco (2017) model was used as a starting point for the formulation of the questions but the analysis of the interviews led to the conclusion that economic and non-economic goals are strongly intertwined, and this division demonstrates, on the one hand, what kind of goals they are (family or business) and, on the other hand, what type of goal (economic or non-economic) is being discussed.

### **Analysis of Business-oriented Economic Goals**

The literature on the entrepreneurial attitudes of family businesses presents two contradictory views: one considers family businesses creative, dynamic, and change-oriented enterprises that support entrepreneurial activity; while the other sees family businesses as conservative, risk-averse, and inflexible organisations in which family and tradition constrain entrepreneurial dynamism (Melin-Nordquist, 2010).

In terms of their economic goals, family businesses did not mention short-term, financial-type goals, and mainly stated long-term, non-financial and economic-professional goals. Based on the analysis of the interview texts, we can say that the most important dimension of the economic goals of the studied family wineries is innovation. In terms of economic goals – even though Basco (2017) includes many of these goals among non-economic goals in his 2×2 model rather than presenting them as economic goals – the respondents mentioned the following (the order reflects the frequency of mention):

1. financial security of the company;
2. quality-focused product development;
3. technology development;
4. improving service quality and customer satisfaction;
5. goals related to sales structure;
6. raising strategic awareness, and
7. smart and sustainable growth.

The following is a detailed overview of the results of each of the economic goals:

#### **(1) Financial Security of the Company**

In terms of the financial decision-making process of businesses, we have found that profit is not necessarily the primary objective, as the coexistence of family and business requires reconciliation between the financial needs of the family and that of the business. In many cases, the needs of family members and the family's financial resources override the opportunities of the business or vice versa (Csákné Filep, 2012). In relation to the economic goals of family business, the interviewees consider the issue of financial security to be of fundamental importance, but this is typically a joint expectation and aspiration for the family and business subsystems, and the issue of financial prosperity cannot be separated with regards to the two subsystems. 'The financial security of the family or the financial security of the enterprise is indispensable, because they are one and the same' (B12).

According to Karagozolu-Brown (1988), openness to change is an element of organisational culture, a prerequisite for innovation and a source of long-term viability. A family business culture facilitates rapid and effective change by default and promotes the continuation of entrepreneurial activities (Zahra *et al.*, 2004). In their research, Upton *et al.* (2001) point out that the fastest-growing family businesses are characterised by a pioneering and early-following market timing strategy, suggesting that flexibility and the pursuit of new ideas play an important role in growth. Unfortunately, not all family firms are characterised by such openness (Beckhard-Dyer, 1983): many see change as a source of conflict (Vago, 2004), and others are simply unwilling to modernise (Stavrou, 1999). Family businesses driven by fear of change are characterized by stagnation and loss of market share (Miller *et al.*, 2003). In many cases, family members' emotional attachment to strategic goals underlies resistance to change (Miller *et al.*, 2003).

In the case of the family wineries included in the research, openness to change is unquestionable, even if in many interviews family wineries demonstrated respect for tradition. Development and openness to new solutions are natural and essential elements in wineries focused mainly on quality objectives.

#### **(2) Quality-focused Product Development**

Wine quality is easier to detect than to define. This is partly because quality is primarily subjective. Thus, determining wine quality from a chemical point of view will never be exact (Jackson, 2017).

In the context of subjective quality perception and quality improvement, one of our interviewees formulated the goal of their family winery as follows:

‘The goal should be to achieve high quality within a vintage, so that the whole range is of high quality [...] measurable by HIRINO scores, by sales volume... It is often the case that a brand is seen to be deteriorating in professional terms in the sommelier community, but the broad consumer base in the supermarket continues buying the product’ (B18).

For small-scale wineries, the concept of quality becomes synonymous with the possibility of staying alive and competitive in the market, as emphasised by several interviewees who own a family winery with around 10 hectares of vineyards:

‘We only sell bottled wine and we strive to achieve the highest possible quality through our technology and thanks to our strength, because I think that a 10-hectare winery can only survive this way today’ (B3).

The quality of wine depends essentially on the quality and composition of the grapes used to make it. In traditional wine producing countries such as Germany and France, the quality of wine is determined by the geographical origin or terroir of the wine (van Leeuwen-Seguin, 2006). The Hungarian situation in this respect can be seen in the following interview extract:

‘With respect to wine, it all depends on the grape. Then comes the development of the product itself, which includes packaging, corking, labelling, and communication’ (B17).

### **(3) Technology Development**

The quality of wine is fundamentally linked to the technological characteristics of the vineyard. Regarding the technological characteristics that accompany grape handling and processing, participants in the research process were unanimous in their support for technological development, but the picture was nuanced by the different perceptions and values that underpinned their interpretation of the form of technological development.

Some wineries are innovating in the direction of traditional – gentle – solutions: ‘We don’t really want to innovate technologically, as I said, we are trying to keep our machines increasingly out of the way. If we can talk about technological evolution, it’s the evolution of our storage vessels. We are very keen to have new amphorae in the cellar: we are still planning this level of development and investment. But we don’t want to have our own bottling machine, for example, we are very happy with our manual filling, and manual corking. It has its romantic aspect to it. Obviously, it requires more work and is physically more difficult, but these wines are about personality and about the fact that yes, we do touch every bottle five, ten, or even ten or fifteen times if we have to’ (B16).

For many wineries, mechanisation is, however, one of the possible ways to achieve efficiency gains due to the severe labour shortage in the sector, and several interviewees defined impressive goals in this context: ‘Mechanisation will be the future and the human factor must be minimised ... In the winery it is important to improve bottling, to help us maintain the quality of our reductive batches for longer’ (B10).

The technological background of viticulture is conducive to the development of wine quality, as can be seen in the example below, which is a long-term goal, but a feasible ambition if the necessary resources are available:

‘There is constant technical innovation, which of course requires a lot of investment, so it’s slow to implement. In viticulture, mechanisation is very important, partly in soil cultivation, partly in vine cultivation ..., and there is also potential in mechanising pruning and pre-pruning, although the latter is an unattainable goal for us now’ (B18).

### **(4) Improving Service Quality and Customer Satisfaction**

The transformation of wine tasting into an increasingly complex customer experience was high on the agenda of many interviewees, adding cultural, tourism and gastronomic services to the existing business. This business model is mentioned in several international studies, too. Some wineries are dismissing the idea that production, marketing, and the sales of wine are their main activities, and are now also organising events and providing tourism services (Cennamo *et al.*, 2012):

‘Nowadays, it is not enough to make wine, you need to be able to sell it, you need a space for guests and here too I can see constant change. There is a need for an outdoor area because often-times people feel safe there ... in the middle of our vineyard there was a small separate area, where we created this small festival area, a small cultural space, which we are also constantly developing. Now, for example, we’re installing artworks, which are both pleasing to the eye in the long term and constitute permanent development’ (B17).

### (5) Sales Structure Goals

Although profit motive is not a primary characteristic of most of the wineries surveyed, all interviewees mentioned the following: sales objectives, the key issues of their sales policy in terms of local versus export sales and in terms of bottled wine versus bulk, and sales channels.

Internationalisation was a recurring motive for a number of interviewees. For many, this is the way to grow and maximise profits: ‘In Hungary we can sell at the most one-third of our total production volume and we are currently selling our wines abroad, for example in the UK, Poland, and the Czech Republic – they love Tokaj wines. We are trying to build our export market, because you just can’t sell so much wine locally, and these countries are very open to these natural wines’ (B15).

‘In any case, our objective is to export 30-40% in the medium term, because now the breakout points have shifted abroad. Our goal is to make a living from this and to have income in euro, because we have a lot of euro expenditure’ (B18).

In terms of the choice of distribution channels, we ended up with a heterogeneous sample, with family wineries selling their wines in a variety of forms. There are wineries that favour distributors, others have developed their own network of shops, while some wines are sold in HORECA<sup>1</sup> areas and in Hungary:

- ‘Wine is scarce, and we sell most of our wine through a merchant. Anyway, we are too expensive to serve tourism, so all our neighbours are cheaper than us’ (B12).
- ‘All of our wine is bottled, we sell it as bottled wine, mainly locally, in the local economy. The rest is sold to the gastronomy industry or the higher segments of the gastronomy abroad, and we supply several restaurants in Hungary as well’ (B16).
- ‘Our main profile is HORECA and export, we do not deal with supermarkets’ (B10).
- ‘70% of our wines have already been sold here at the Cellar and the rest in these restaurants’ (B17).

### (6) Smart and sustainable growth

Much of the international literature on the growth of family businesses agrees with Zahra (2005), according to whom the significant feature of family businesses is that family ties are interwoven with the ownership and management structure, and thus family influence has a significant impact on the long-term profitability of the business, its export performance and, in addition, its growth potential through the entrepreneurial orientation of management.

Gersick *et al.* (1997) and Salvato (2004) argue that family businesses tend to prioritise continuity, therefore, their drive to maintain the status quo works against growth.

The promotion of growth in a gradual and sustainable way is a common approach in the belief system of the family wineries interviewed as opposed to forcing growth at all costs, even by way of the exploitation of natural resources, which is in line with the literature reviewed and cited.

The following opinion and position reflect this well in the context of growth:

- ‘Step-by-step growth, meaning that our development from one barrel to the current 15-16 thousand bottles of wine, was a gradual process. Sometimes it would have been easier to make a bigger step. But you must be able to sell the wine if you store it and you don’t know what’s going to happen to it, that’s not reassuring for me’ (B17).
- ‘We have 120 hectares; we have reached the right size. You must be very realistic in terms of what is the size that one person can still oversee and manage., That’s about the upper limit’ (B2).

---

<sup>1</sup> HORECA= HOTELS, RESTAURANTS, CATERING



### Analysis of Family-Oriented Economic Goals

In relation to the question of exploring the economic goals of the family, family businesses, as previously laid out in Dyer's (1992) theoretical model, identified the maintenance, and increase of the family's financial well-being as the most important goal.

The following approaches have emerged with respect to the goal of the financial security of the family.

Most family businesses operate for and along objectives that are partly detached from economic performance, and will continue to operate if there is family satisfaction, both in terms of economic and financial performance and in terms of the family-business relationship, with the latter including, for example, social prestige, financial security, and a good working environment that the business brings.

'I'm not an economically minded and rational person. At times my husband taps me on the head and says, 'But is it worth it?' It's okay, he finances it, it's not a hobby, it must be profitable. Of course, we watch the numbers and the stock and it's a very good feeling when, say, a batch of 2.000 bottles is gone and I can say that we have nothing left' (B15).

During the interview, we also identified a stronger economic focus:

- 'I used to tell my son that I don't want to be proud, I want to be rich. ... The financial security of a business is very important in one's life and the ability to make decisions, rational decisions, is essential' (B13).
- 'It is essential to grow because when kids move out, we will have three families to support.' (B3).
- 'I'd like to live at a European level, and that's becoming less and less easy I think, especially with the euro exchange rate, but I think this goal is important' (B18).

### Analysis of Business-oriented non-economic Goals

The non-economic goals of family businesses are based on the long-term orientation of the family and the desire for generational transitioning. The essence of long-term orientation refers to prioritisation and understanding the effects and consequences of decisions and actions that have a long-term impact (Lumpkin-Brigham, 2011). Accordingly, long-term orientation is particularly important as it serves as a kind of 'compass' to help choose between the complex economic and non-economic goals of an enterprise.

The next group of goals to be analysed is the non-economic corporate goals of enterprises. In this category, we were able to identify four groups. The first (1) is linked to the various groups involved in the enterprise. These include objectives related to employees and consumers. The second group (2) consists of objectives relating to various forms of commitment to society, while the next group (3) consists of objectives relating to responsible behaviour towards the natural environment. Finally, (4) there are objectives concerning the preservation and maintenance of the traditions of the enterprise.

(1) The first category of the non-economic goals of enterprises is linked to various groups of stakeholders. This includes the objective of building long-term relationships with employees. The aim is to select employees who have a long-term view of their work in line with the values that are important to the family. 'Here in Somogy, it has always been difficult to find the right workforce. They always had to be brought from abroad or even further, and we also had to find some way of ensuring that they would stay here. It was also in the interest of the owner that they should feel comfortable here, stay here to work and continue farming' (B20).

Caring for and developing employment opportunities and employees appeared also among the goals of family businesses. 'Agricultural work is one of the most disdained jobs and we are trying to restore its prestige. You can earn as much money working in the vineyards as someone with a degree and a language certificate in Budapest. There are incentives built in, so that those who want to work more can do so, they can improve their standard of living and be proud of the fact that their boots are muddy because they cultivate the St. Thomas plot for the Szepsy brand' (B12).

The other group concerned is the consumers. The goal of satisfying customer needs is important and is achieved primarily through the production of high-quality wines. Most respondents seek to have as direct a relationship with their customers as possible, since personal direct contacts lead to more loyal customers. In those businesses where a gastronomic service (including a restaurant, tasting room

and/or accommodation) is not yet available, the aim is to create such a service. Customer satisfaction was also identified as an objective by respondents.

(2) Goals relating to various forms of commitment to society. This commitment was evident from two aspects of the interviews. On the one hand, the aim of social contribution to society and local networks was expressed, and, on the other hand, the aim of enhancing the reputation of the various wine regions was mentioned.

Astrachan (1988) points out that the family business and the local community in which it operates are closely linked. The family nature of the enterprise affects its relationship with the local environment.

If family businesses are aware of the resources offered by their environment, they can use them for their social and economic development. Integration in the local environment and cooperation with the community influence business decisions. However, the local environment is not the only place where a business is located. The network of shops, points of sale, restaurants, etc. is also where business operates. In this respect, family businesses also try to consider the interests of local suppliers. 'We try to take local specifics into account everywhere, and just this morning, for example, I had a conversation with a local soda water producer .... I am also trying to help these guys: come to us. We'll make it work .... For example, we sell local craft beers, brandy, even juices we ourselves don't make' (B5).

Family businesses in the Hungarian family winery sector show exemplary solidarity in working together. In all the studied wine districts (Tokaj, Villány, Mátra, Eger, Mór, Szekszárd, Csongrád, Pannonhalma, Balatonboglár, Hajós-Baja), we could see outstanding examples of cooperation with competitors. The objectives of such cooperation include a commitment to jointly promote the wine region and to share infrastructure.

In the past decade, Szekszárd was one of the first wine districts to show how to think together and implement joint projects including joint tasting and the Szekszárd-Bottle, which brings local varieties and producers on a common platform. 'Because we are talking about a wine region. Now, the image of a wine region is worthless if we producers don't stick together. And, if we are talking about Szekszárd, I really like the Szekszárd bottle, for example. The wine speciality called fuxli was invented a few years ago' (B21).

In the Pannonhalma wine district, PH-value is the result of the collaboration: 'The purpose of creating PH-value was to honour the name of the wine region, and also to improve the quality of the wines of others, to develop each other's knowledge and to really put a product on the table to which everyone – from the Pannonhalma Archabbey to the smallest cellar – can lend their names; we considered this the cardinal issue' (B5).

The Tokaj Wine Growers' Association was founded in the 1860s and was revived after the change of regime in 1990. Furthermore, The Tokaj Wine Knights also continue a local tradition, and their main aim is to promote Tokaj wine in the world, so they recruit foreign journalists and celebrities to be wine knights and act as ambassadors for the Tokaj wine. Moreover, the Tokaj Wine-Girlfriends Society has created a joint bottle. Somló Superior is the result of collaboration among the wineries of the Somló wine district: this Somló wine of protected origin can only be made from grapes grown organically – a unique feature in Hungary.

(3) Goals relating to responsible behaviour towards the natural environment. The personal values of the founder are fundamental in determining the relationship with the environment, which can override the financial interests of the company. 'We don't buy the best ploughs but rather small lawns that may not be as valuable, but that's how we protect these lawns. We try to keep them as they are, we don't cultivate them, we keep them in their natural state, we just mow them. We keep all the pastures and meadows because it's more natural than a plough. And we try to keep the forest in its natural state as well' (B20).

The goal of reducing environmental impact was also brought to the fore with respect to wine bottles. One of the surveyed family businesses offers its consumers quality bulk wine in swing-top bottles. 'I hate plastic, although unfortunately a lot of consumers choose it, but we try to train them – in fact, it is not really the right word for that – to use the one-litre swing top bottles, because they are beautiful and we give these bottles to them at exactly the same price as we buy them... and we also give them a storage wooden box, which is great to carry them in. ... They get a damn good

product: they're happy, I'm happy, and we don't end up polluting the environment, because our customers are actually taking home a repackaged product' (B5).

The approach to innovation was strongly emphasized in the responses to the questions concerning the objectives of environmental responsibility. 'Or meteorological forecasting: there are now vineyard to spray when you need to. And if we can save one round, that's another way of reducing environmental damage. And what do we need for that again? Money to have a weather station that measures humidity and uses different algorithms to tell you when to spray so that we know if the day after tomorrow or three days from now is enough' (B21).

The respondents pointed out that in their experience, environmental aspects and organic farming are not a source of motivation for consumers in Hungary. 'The majority of Hungarian consumers are not [interested]. One reason for this is that organic wines perhaps do not yet have a distinct image, they are not well-marketed, and consumers are not yet looking for organic products' (B19). However, Hungarian entrepreneurs whose aim is to enter foreign markets or increase sales volumes consider a shift to organic farming inevitable.

Our research has shown that environmental sustainability and the protection of the environment are important goals for Hungarian family wineries. In addition to preserving the environment, we also found a noble goal that goes beyond the business and is linked to the Hungarian wine sector. 'We have an important task: to keep the best and oldest Furmint types alive. It's a constant process ... it never stops, but this wine region does not really assume this task and in the meantime, Furmint varieties are becoming extinct. We are doing this conservation project together with Eszterházy University of Eger' (B12).

(4) Preservation and maintenance of the traditions of the enterprise. Our interviewees were keen to talk about family traditions and the importance of local roots. It was interesting to see how important it was for them to mention family traditions going back to several generations or even younger roots in the case of wineries that were founded in the 1990s, after the political changes. Some considered it important to pass on the knowledge of viticulture and winemaking and the knowledge left behind by previous generations, while others bequeathed knowledge of the love of the vine and nature. 'I had some insight into agriculture, I grew up in it, we had our greenhouses and orchards. ... And I think everyone has their own paths in life. An agrarian interest has always been in me, but for me, the grape meant wine. Maybe as an analogy, it is like in a family of artists: one becomes a magician, another becomes a violinist, a third might work in a circus' (B6).

Finally, it is important to mention the issue of ethics and honesty, which – even if not a stated objective – appeared as a natural part of future operations.

### **Analysis of Family-oriented non-economic Goals**

Families' non-economic goals reflect families' values and non-economic intentions, which are promoted primarily for the benefit of the family. In this category, we can distinguish three groups. The first (1) were socio-emotional wealth-related goals: *i.e.*, preservation of the family's interests, preservation of the family's reputation, and the intention of generational transition. The second group of goals (2) aimed at maintaining family unity and harmony. The third group (3) was related to the next generation, which was partly expressed in terms of education and the next generation's opportunities in entrepreneurship.

(1) From among the socioemotional wealth-related goals on the FIBER scale (Berrone *et al.*, 2012) three of the five dimensions identified were also expressed as objectives in the interviews. The first dimension is family control and influence, *i.e.*, maintaining the family's interests. According to Chua *et al.* (1999), one of the key characteristics that distinguishes family and non-family businesses is the control that family members exercise over strategic decision-making: namely, the family and/or owners' desire to retain total control over the firm. It should be emphasised that the objective of retaining family control was observed in all the businesses studied. Outsourcing management was mentioned but generally not as a real option. This may be due to the size of the companies surveyed, the number of family members working in the companies, or the wish to maintain absolute control. In one company, an attempt was made to employ a non-family member manager but this also failed within a short time: 'It was very interesting and important, we recently hired a colleague to take over operational management tasks. We

failed in three months, although we don't have any prejudices but somehow it didn't work. Obviously, with my father, we have an invisible link between us, and so it works. Apart from the fact that he is obviously my father, I think, we are also very good friends. We see things in a very similar way and the fact that he has been able to ingrain the worldview into me that I need to have is one of his greatest successes. How will I manage to do it in the case of my own son...? That is a good question' (B5).

The second dimension is the identification of family members with the company, which is the goal of maintaining a good reputation. Many researchers have concluded that the interconnectedness of the company and the family is what makes family firms unique and this can as often have a positive effect as a negative one. The identity of the family in its ownership is inseparable from the company, so the company often appears as an 'extension' of the family (Bingham *et al.*, 2011). The reputation and image of the family are also of paramount importance, as the product and the business often bear the family name. 'I want it to be damn good, because we attach our name to this story' (B5). The image in business circles and the recognition of the family are also of paramount importance. 'Every single bottle of wine reminds me that it is the name of my father's family that goes on the label. As I have no sons, the name can't survive in any other way but through the winery. Quality is very important; I really want to bottle the best in every respect' (B17).

The fifth dimension of the FIBER scale is the renewal of family ties through a dynastic transition. The fifth dimension refers to the intention of leaving the business to the next generation. Zellweger-Astrachan (2008) considers transgenerational sustainability as a central element of socioemotional wealth. In this sense, the notion of dynasty is of relevance in the context of decisions. Research showed that the intention to pass the business on to the next generation is one of the most important goals of family businesses (Zellweger *et al.*, 2011). One indicator of an executive's long-term thinking is the intention of generational transitioning. Long-term thinking implies willingness to invest in long-term operations, build relationships based on trust, be included in the community, and build the reputation of the business (Le Breton-Miller, 2016).

In 20 out of the 21 conducted interviews, the intention of generational transitioning was clearly stated as a goal: 'Those who work with grapes can only think long term' (B5).

In one case, we encountered the drafting of a family constitution in relation to property ownership, duties, and inheritance. There was one case where we found that the owner of the head company (in most cases these were groups of family companies) was not at all willing to share his thoughts with his family about the long-term future of the winery. 'Anyone who at the age of 65 does not start thinking soon about handing over the business to the next generation is doomed to bankruptcy. And in our case, at the age of seventy or so, I don't think it has ever crossed my father's mind, at least we have never sat down to talk about it. We have never discussed who can assume responsibility for what. But it would be good to do it while he still has the time, energy, and mental agility to pass on these thirty years of experience. I think in the case of a family business like this, which you have planned for the long term, when you set the business up, the emphasis is on passing it on. Unfortunately, this has not happened in our case' (B2).

Long-term orientation is particularly important for agricultural businesses. Specific farming knowledge and practices have a greater incentive for intergenerational transfer. Family firms tend to pay more attention to water and soil conservation and energy efficiency than non-family firms (Tweeten, 1987; James, 1999). 'If you want to pass it on to your children and grandchildren in this form, you have to think about it. If you overfertilize the soil, and you use fertilizer as if it was salt, what will your grandchildren produce on that land? A person who thinks this way is ruining the future of their descendants in the long term' (B19).

For long-term sustainability, it is important that both the transferring and the receiving generation have a shared goal of running the family business together: 'Whoever passes things on to the next generation, I think the most important thing for this person is to accept that they will not be around forever. Because if that doesn't happen, confidence is lost in the next generation. And the other important thing is that you cannot develop family businesses in terms of income infinitely, so a family business will not sustain everybody. ... a family business is like a tractor in that you can attach different farming equipment to it depending on who wants to do what. And the family business is the power

machine, the equipment is the individuals and if one of the grandchildren wants to be an artist, it can give them inspiration. But future generations are not going to make a living out of wine. But if one wants to be a cooper or a chef, then that's where they should draw their motivation from and help the brand to assert itself. This way new brands can be created, which by brand linkage will keep the whole thing moving upwards. To finance this, you need to push your siblings out of the family business, because you will not be able to make a living out of it' (B12).

(2) The goal of family unity, harmony. The three dimensions of the Three Circles model (Davis-Tagiuri, 1982) drawn up by Tagiuri-Davis (1992) include the triad of family, business, and property, which overlap. One of the authors, Davis also developed a triple model of family business sustainability based on the Three Circles model ([www.johndavis.com/family-sustainability](http://www.johndavis.com/family-sustainability)). Studies spanning across the first three generations show that the three factors that explain long-term success are increasing family wealth, developing useful skills (talent), and maintaining unity. The three dimensions can be achieved through effective management, appropriate ownership and governance structures, and the availability of the necessary number of resources (financial, reputation, talent, strong allies) to build the business.

There are at least 15 years in the life of a family business when at least two generations need to work together and share management: this means thinking of the family as a unit is particularly important in times of transition ([www.johndavis.com/qa-john-davis.com](http://www.johndavis.com/qa-john-davis.com)). Family unity is not always about harmony, but it does imply the unity of the Three Circles (Davis-Tagiuri, 1982) and the alignment of sub-units in the family's goals and approach.

The third component described by Davis, *i.e.* the aim of creating family unity and harmony, is also supported by data in our study. The importance of family loyalty and support emerged as a fundamental topic throughout the interviews.

(3) The third family-related non-economic category is linked to the next generation, which was partly expressed in terms of education and the opportunities for the next generation. The development of children's skills and the creation of entrepreneurial opportunities linked to the business was a clear objective in all cases.

Selection based on meritocracy, whether the manager is a family member or not, is of paramount importance in family businesses. However, shared socio-emotional wealth and emotional attachment may make a well-educated leader from the founding family more suitable to manage a family business. Such successors are often trained and educated for years before the actual generational transition occurs (Miller *et al.*, 2007). In the absence of a successor with the leadership skills mentioned above, and as the firm grows and becomes more complex, it is often not a family member who takes the top position. Non-family managers may make decisions based on financial priorities that may threaten the sustainability of family firms (James, 1999).

In our experience, it is very important for the first generation to train the next generation. It is important that they work in the family business as well-trained young winemakers, often gaining experience abroad. Second-generation winemakers are more concerned with creating opportunities than with the importance of professional education. We had – as an exception – a third-generation interviewee who did not believe that studying was important at all for making good wine but believed much more in the importance of marketing and management skills. 'Viticulture is a horticultural, biologically oriented profession, winemaking is more about chemistry; for a long time, it was taught separately in Hungary too. It is good if someone has a degree in this field, if someone trains themselves for years, decades, learns the trade in a self-taught way, they can be as good winemakers as a winemaker with a higher education qualification' (B9).

However, the importance of experiential learning, and personal example was seen as a very important goal. 'I've been teaching her [my child] about smells since she was very young, with the help of scent-pattern games that I use to prepare for wine competitions myself. We've been playing with these since she was two weeks old, when she was strapped to me in a carrier, wherever I went in the vineyard or in the cellar, she came with me so it's a natural thing for her. We don't force anything, if she feels like going to a wine tasting, she just runs there with all the guests, when we have tasting events. The other day she said 'Mum, I'm not going to be a winemaker, because it's too much work,

I'm going to be a kindergarten teacher.' I said, well Fannika, that's very good, too. But I think she'll be able to make wine by the age of 18: she'll get the hang of it' (B17).

### Summary and Discussion

Focusing on the distinction between family and business goals based on the Basco (2017) model, our research to understand the economic and non-economic goals of family wineries generated the following results:

1. the goal system of family wineries includes economic and non-economic goals along both the family and business dimensions;
2. the strong pattern within the time dimension can be identified with respect to goals: the dominance of long-term goals is observed in the case of both family and business goals;
3. the sustainability aspects and goals are strongly focalised in the case of family wineries, both in the family and in the business subsystems. Thus, we can most aptly summarize the goal system of family wineries with the help of the further development of the Basco (2017) model:

**Table 6. The goal system of family wineries**

Dimensions	Business goals	Family goals
<b>Short-term goals</b>	Harnessing the potential of digitalisation to tackle crises Financial security of the company	Preserve the family's financial well-being and financial security
<b>Long-term goals</b>	Exploiting export market opportunities; Market development; strengthening market positions Quality-focused product development Increasing strategic awareness Goals related to sales structure	Socio-emotional goals (maintaining family interest, increasing family reputation and social recognition, generational transitioning) Preserving and renewing family traditions
<b>Sustainability goals</b>	Improving service quality Technological development, innovation Smart and sustainable growth Mainstreaming environmental sustainability	Training and education of family members in the wine sector Maintaining a family unit Goals related to employees and consumers Commitment to society

Source: own study.

### Family vs. Business-oriented Goals: Short-term vs. Long-term Goals

One of the findings of this study is related to the limitation of the otherwise well-formulated Basco (2017) model as far as its application to traditional businesses like wineries is concerned. Throughout the interviews, the separation of business and family goals remained an unresolved challenge. Almost all of our interviewees stated that the two groups of goals are very much intertwined.

A similar overarching dilemma appeared when short-term and long-term goals were discussed. However, this has manifested in a different way. On the level of espoused values, family business wineries (FBW) wineries strongly emphasized the importance of long-term goals: this, however, happened on a practical level, therefore short or middle-term concerns were expressed.

### Innovation vs. Tradition

These seemingly contradictory values (Vrontis *et al.*, 2016) were well demonstrated by these FBWs. Innovation was interpreted as technological innovation with a focus on viticulture and wine production. Elements of marketing and service-package augmentation (*i.e.*, adding a restaurant and other tourism-related services to the core business) were also mentioned.

However, social and especially organisational innovation was hardly or not at all mentioned. This might impede the development of these first-generation FBWs.

Traditions were the focal point of most interviews and the source of emotional attachment to the enterprise (some claiming centuries of family traditions of winemaking) and provided a perspective of

future decades to come. This seemingly future-oriented thinking lacked any strategic basis or framework: it rather served as a sacred, almost religious affection (see the motto of the study) for grape as an ancient plant and an emotional attachment to the thousands of years of the history of wine-making.

The analysis of this level (*i.e.*, quasi-religious) of attachment in the business sector, however, falls outside the scope of this study.

### **Sustainability-locality**

Strong concerns were expressed on the issue of sustainability in relation to the environmental friendliness of viticulture and wine production technology. The natural environment at the core of winemaking (see the idea of sacredness above) was very much in focus with perspectives of decades, perhaps even centuries in mind.

The following topics were referred to: level of organizational culture, attitudes of employees and non-family members, and how loyal and proud they are to be part of the family business. The identification of the family members with the business in question was taken for granted. The concept of the familial nature of businesses was present in all of the interviews. Both environmental and organizational sustainability were framed on the local level in the narrowest sense.

### **CONCLUSIONS**

The objective of our study was to analyse the goals and goal systems of Hungarian family business wineries. The research was based on the family business goals dimensionality model of Basco (2017). As a result of the qualitative analyses carried out in 21 wineries, a Model of Organizational Goals of Family Businesses was developed as an elaboration and further development of the original model.

The aim of the study was to identify what are the short- and long-term goals, and organizational, family, and individual goals of family wineries according to first- and second-generation owners.

It has been proven that the individual, family, and organizational level analysis provides a deeper understanding of the complex goal systems of family businesses.

Three dilemmas have emerged as novelties of the research. Firstly, family businesses found it very challenging to distinguish between short- vs. long-term as well as between financial vs. family goals. Secondly, there has been a limited concern with innovation, which solely focuses on wine as a product and production technology. Thirdly, sustainability issues regarding the natural environment of viticulture were very much in line with perspectives of hundreds of years in mind.

As a result of the above-mentioned dilemmas, a development challenge occurs. Namely, the lack of organizational development perspective, which – considering the growth need of family businesses at this stage – could appear as a major obstacle in the near future.

The wineries in the sample were all first, second, or – rarely – third-generation family businesses. In a few cases, the generational transition has explicitly taken place. However, on the governance and strategic level hardly any attempts could be detected with respect to the development of a new organizational and business model. External investment and external management were not considered at all by owners or managers. These otherwise logical steps of family firm development were not even mentioned as options. Considering the development stage (Miller-Friesen, 1984; Quinn-Cameron, 1983; Gersick *et al.*, 1997) of these wineries, the current approach was understandable; however, there seems to be a lack of possible future organizational and business development paths.

Our study further supports the arguments for the need of future research in longitudinal studies in the field of family business succession in the Central Eastern European region. This research gap is especially wide because of the relatively short history of generation change in family businesses in Central Eastern Europe.

The ambiguity of the goals appeared in many cases as the root of organizational problems, like loosely planned generation change, family conflicts, and unclear distribution of responsibilities. As for managerial implications, a complete lack of planning in terms of professional family governance and management structures appears as a main hindrance to the development of family businesses. We strongly agree with Beattie (2018) and Kane (2007) on the recommendation for managers of family

businesses, who state that it is never too early to start dealing with governance structures when planned growth is ahead or when organic growth is under way.

This phenomenon is strongly supported by the findings of Makó *et al.* (2020), who found that innovation is typically understood and implied in its old-fashioned and narrowest sense focusing on product and technology. Furthermore, this limited understanding seems to be a major obstacle to organisational learning, which is a prerequisite for growth in Hungarian SMEs. Managers and owners of FBWs should consider improving organisational knowledge (*i.e.*, consultancy) with the support of internal or external resources.

There are two explicit limitations to this study. One is the limited number of wineries in the interview sample, which is due to the exploratory qualitative research paradigm. This could serve as a constraint to the generalizability of the results. This might give rise to a further research direction with a research focus exhibiting a positivist paradigm, which is not aimed at cognition but the exploration of an objective system of relations using the quantitative research paradigm. The second one is the very unique traditionality of the wine sector, in which all actors expressed almost religious attachment to the thousand years old processes of viticulture and grape production, winemaking, and wine as a product itself. This level of emotional attachment and faith might not appear in other less traditional businesses.

## REFERENCES

- Astrachan, J.H. (2010). Strategy in family business: Toward a multidimensional research agenda. *Journal of Family Business Strategy*, 1(1), 6-14. <https://doi.org/10.1016/j.jfbs.2010.02.001>
- Basco, R. (2017). Where do you want to take your family firm? A theoretical and empirical exploratory study of family business goals. *BRQ Business Research Quarterly*, 20(1), 28-44. <https://doi.org/10.1016/j.brq.2016.07.001>
- Beattie, P.M. (2018). "Small Family-Owned Firms: The Challenges of Corporate Governance" In Governance and Regulations' Contemporary Issues. Published online 12 Jun 2018; <https://doi.org/10.1108/S1569-375920180000099001>
- Beckhard, R., & Dyer, W.G. (1983). Managing continuity in the family-owned business. *Organizational Dynamics*, 12(1), 5-12. [https://doi.org/10.1016/0090-2616\(83\)90022-0](https://doi.org/10.1016/0090-2616(83)90022-0)
- Berrone, P., Cruz, C., & Gomez-Mejia, L.R. (2012). Socioemotional Wealth in Family Firms: Theoretical Dimensions, Assessment Approaches, and Agenda for Future Research. *Family Business Review*, 25(3), 258-279. <https://doi.org/10.1177/0894486511435355>
- Bingham, J.B., Dyer, W.G., Jr. Smith, I., & Adams, G.L. (2011). A stakeholder identity orientation approach to corporate social performance in family firms. *Journal of Business Ethics*, 99(4), 565-585. <https://doi.org/10.1007/s10551-010-0669-9>
- Broccardo, L., Giacosa, E., & Ferraris, A. (2015). The family variable in the wine sector: an Italian perspective. *International Journal of Management Practice*, 8(3), 199-215. <https://doi.org/10.1504/IJMP.2015.072773>
- Cennamo, C., Berrone, P., Cruz, C., & Gomez-Mejia, L. (2012). Socioemotional Wealth and Proactive Stakeholder Engagement: Why Family-Controlled Firms Care More About Their Stakeholders. *Entrepreneurship Theory and Practice*, 36(6), 1153-1173. <https://doi.org/10.1111/j.1540-6520.2012.00543.x>
- Chrisman, J.J., Chua, J.H., Pearson, A.W., & Barnett, T. (2012). Family Involvement, Family Influence, and Family-Centered Non-Economic Goals in Small Firms. *Entrepreneurship Theory and Practice*, 36(2), 267-293. <https://doi.org/10.1111/j.1540-6520.2010.00407.x>
- Chua, J.H., Chrisman, J.J., & Sharma, P. (1999). Defining the family business by behaviour. *Entrepreneurship Theory and Practice*, 23(1), 19-39. <https://doi.org/10.1177/104225879902300402>
- Cox, M.J., & Paley, B. (1997). Families as system. *Annual Review of Psychology*, 48(February), 243- 267. <https://doi.org/10.1146/annurev.psych.48.1.243>
- Creswell, J.W. (2009). *Research Design: Qualitative, Quantitative and Mixed Methods Approaches*. (Third edition) Thousand Oaks, CA: Sage.
- Csákné Filep, J. (2012). Családi vállalkozás, avagy a profitkergetés nélküli nyereségtermelés receptje. (Family Business or the Recipe for Profit Without Profits.) *Valóság*, 55(7), 36-45.



- Davis, J. (2001). *The Three Components of Family Governance*. Harvard Business School, Working Knowledge. <https://hbswk.hbs.edu/item/the-three-components-of-family-governance>
- Davis, J. (2014). *Family sustainability*. Retrieved from [www.johndavis.com/family-sustainability](http://www.johndavis.com/family-sustainability) on 25 November 2021.
- Davis, J.A., & Tagiuri, R. (1982). Bivalent attributes of the family. *Family Business Sourcebook*, 62-74.
- De Massis, A., Kotlar, J., Mazzola, P., Minola, T., & Sciascia, S. (2018). Conflicting selves: family owners' multiple goals and self-control agency problems in private firms. *Entrepreneurship Theory and Practice*, 42(3), 362-389. <https://doi.org/10.1111/etap.12257>
- Dyer, W.G. (1992). *The Entrepreneurial Experience*. San Francisco: Jossey-Bass.
- Freeman, E.R. (1994). The Politics of Stakeholder Theory: Some Future Directions. *Business Ethics Quarterly*, 4(4), 409-421. <https://doi.org/10.2307/3857340>
- Friedland, R., & Alford, R.R. (1991). Bringing society back in: symbols, practices, and institutional contradictions. In W.W. Powell & P.J. DiMaggio (Eds.), *The New Institutionalism in Organizational Analysis* (pp. 232-263). Chicago: University of Chicago Press.
- Gersick, K.E., Davis, J.A., Hampton, M.M., & Lansberg, I. (1997). *Generation to generation: Life cycles of the family business*. Massachusetts, Boston: Harvard Business School Press.
- Gómez-Mejía, L.R., Haynes, K.T., Núñez-Nickel, M., Jacobson, K.J., & Moyano-Fuentes, J. (2007). Socioemotional wealth and business risks in family-controlled firms: evidence from Spanish olive oil mills. *Administrative Science Quarterly*, 52(1), 106-137. <https://doi.org/10.2189/asqu.52.1.106>
- Habbershon, T.G., & Williams, M.L. (1999). A resource-based framework for assessing the strategic advantages of family firms. *Family Business Review*, 12(1), 1-25. <https://doi.org/10.1111/j.1741-6248.1999.00001.x>
- Heidrich, B., & Vajdovich, N. (2021). Quo vadis? - A családi vállalkozások összetett célrendszerének elemzése. (Quo vadis? – Analysis of complex goal systems for family businesses.) *Vezetéstudomány, Budapest Management Review*, 52(11), 13-27. <https://doi.org/10.14267/VEZTUD.2021.11.02>
- HNT (2016). *Magyarország szőlészetének és borászatának helyzete - Háttér tanulmány az ágazati stratégiához*. (The situation of viticulture and winemaking in Hungary - Background study for the sectoral strategy.) HEGYKÖZSÉGEK NEMZETI TANÁCSA. Retrieved from <http://hnt.hu/wp-content/uploads/2016/08/Magyarorsz%C3%A1g-sz%C5%91l%C3%A9szet%C3%A9nek-%C3%A9s-bor%C3%A1szat%C3%A1nak-helyzete-2016.pdf> on 25 November 2021.
- Hofmeister-Tóth, Á., & Durrieu, F. (2008). Market orientation of French and Hungarian small and medium-sized wineries. *International Journal of Wine Business Research*, 20(2), 124-137. <https://doi.org/10.1108/17511060810883759>
- Jackson, R.S. (2017). *Wine Tasting – A Professional Handbook*. Elsevier: Academic Press.
- James, H.S. (1999). Owner as Manager, Extended Horizons and the Family Firm. *International Journal of the Economics of Business*, 6(1), 41-55. <https://doi.org/10.1080/13571519984304>
- Kane, D. (2007). The real value of corporate governance: Interview by Darilyn Kane. *University of Auckland Business Review*, 9(1, Autumn), 59-61.
- Karagozlu, N., & Brown, W.B. (1988). Adaptive responses by conservative and entrepreneurial firms. *Journal of Product Innovation Management*, 5(4), 269-281. [https://doi.org/10.1016/0737-6782\(88\)90011-2](https://doi.org/10.1016/0737-6782(88)90011-2)
- Kása, R., Radácsi, L., & Csákné Filep, J. (2019). Családi vállalkozások definíciós operacionalizálása és hazai arányuk becslése a kkv-szektoron belül. (Definitional operationalisation of family enterprises and estimation of their share in the SME sector in Hungary.) *Statistikai Szemle, Hungarian Statistical Review*, 97(2), 146-174. <https://doi.org/10.20311/stat2019.2.hu0146>
- Komáromi, N., & Lehota, J. (2004). A piaci orientáció mérése és jellemzői a magyar borászatokban. (Measuring and Characteristics of Market Orientation in Hungarian Wineries.) *Marketing és Menedzsment (Marketing & Management)*, 38(4), 4-13.
- Kotlar, J., & De Massis, A. (2013). Goal setting in family firms: goal diversity, social interactions, and collective commitment to family-centered goals. *Entrepreneurship Theory and Practice*, 37(6), 1263-1288. <https://doi.org/10.1111/etap.12065>
- Kotlar, J., Fang, H., De Massis, A., & Frattini, F. (2014). Profitability goals, control goals, and the R&D investment decisions of family and nonfamily firms. *Journal of Product Innovation Management*, 31(6), 1128-1145. <https://doi.org/10.1111/jpim.12165>

- Kvale, S. (1996). *InterViews – An Introduction to Qualitative Research Interviewing*. California, Thousand Oaks: Sage.
- Le Breton-Miller, I., & Miller, D. (2016). Family firms and practices of sustainability: a contingency view. *Journal of Family Business Strategy*, 7(1), 26-33. <https://doi.org/10.1016/j.jfbs.2015.09.001>
- Legard, R., Keegan, J., & Ward, K. (2003). In-depth interviews. In J. Ritchie & J. Lewis (Eds.) *Qualitative Research Practice: A Guide for Social Science Students and Researchers* (pp. 139-169). London: Sage.
- Lumpkin, G.T., & Brigham, K.H. (2011). Long-term orientation and intertemporal choice in family firms. *Entrepreneurship Theory and Practice*, 35(6), 1179-1197. <https://doi.org/10.1111/j.1540-6520.2011.00495.x>
- Makó, Cs., Illéssy, M., & Heidrich, B. (2020). Az innovációs és tanulási képességek egyenlőtlenségei. (The imbalances of innovation and learning capabilities.) *Külgazdaság*, 64(11-12), 3-32. <https://doi.org/10.47630/KULG.2020.64.11-12.3>
- Melin, L., & Nordqvist, M. (2010). Entrepreneurial families and family firms. *Entrepreneurship & Regional Development*, 22(3), 211-239. <https://doi.org/10.1080/08985621003726119>
- Miller, D., & Friesen, P. (1984). A longitudinal study of the corporate life cycle. *Management Science*, 30(10), 1161-1182. <https://doi.org/10.1287/mnsc.30.10.1161>
- Miller, D., Le Breton-Miller, I., Lester, R.H., & Cannella, A.A. (2007). Are Family Firms Really Superior Performers?. *Journal of Corporate Finance*, 13(5), 829-58. <https://doi.org/10.1016/j.jcorpfin.2007.03.004>
- Miller, D., Steier, L., & Le Breton-Miller, I. (2003). Lost in time: Intergenerational succession, change, and failure in family business. *Journal of Business Venturing*, 18(4), 513-531. [https://doi.org/10.1016/S0883-9026\(03\)00058-2](https://doi.org/10.1016/S0883-9026(03)00058-2)
- Murinova, A. (2017). Family relationships and its influence on family wine firms in the Czech Republic. *Trends Economics and Management*, 11(29), 51-58.
- Obermayer, N., Kóvári, E., Leinonen, J., Bak, G., & Valeri, M. (2021). How social media practices shape family business performance: the wine industry case study. *European Management Journal*. <https://doi.org/10.1016/j.emj.2021.08.003>
- Pacheco, L. (2019). Performance vs. Family Ownership and Management: The Case of Portuguese Wine Firms. *Entrepreneurial Business and Economics Review*, 7(3), 7-24. <https://doi.org/10.15678/EBER.2019.070301>
- Quinn, R.E., & Cameron, K. (1983). Organizational life cycles and shifting criteria of effectiveness: Some preliminary evidence. *Management Science*, 29(1), 33-51. <https://doi.org/10.1287/mnsc.29.1.33>
- Salvato, C. (2004). Predictors of Entrepreneurship in Family Firms. *The Journal of Private Equity Summer*, 7(3), 68-76. <https://doi.org/10.3905/jpe.2004.412339>
- Saunders, B., Sim, J., Kingstone, T., Baker, S., Waterfield, J., Bartlam, B., Burroughs, H., & Jinks, C. (2018). Saturation in qualitative research: exploring its conceptualization and operationalization. *Qual Quant*, 52(4), 1893-1907. <https://doi.org/10.1007/s11135-017-0574-8>
- Singer, J., & Donoho, C. (1992). Strategic management planning for the successful family business. *Journal of Business and Entrepreneurship*, 4(3), 39-51.
- Stavrou, E. (1999). Succession in family businesses: Exploring the effects of demographic factors on offspring intentions to join and take over the business. *Journal of Small Business Management*, 37(3), 43-44.
- Stewart, A. (2003). Help one another, use one another: Toward an anthropology of family business. *Entrepreneurship Theory and Practice*, 27(4), 383-396. <https://doi.org/10.1111/1540-8520.00016>
- Szepsy Tokaj-Mád (2021). *Szepsy Birtok Kezdőlap*. Retrieved from <http://szepsy.hu/> on November 25, 2021.
- Tagiuri, R., & Davis, J. (1992). On the goals of successful family businesses. *Family Business Review*, 5(1), 43-62. <https://doi.org/10.1111/j.1741-6248.1992.00043.x>
- Tóth, J. (2012). A tudás alkalmazása a magyarországi szőlőtermelésben és borászatban (Egy empirikus felmérés tapasztalatai). (The application of knowledge in viticulture and winemaking in Hungary /Experiences from an empirical survey/). *Gazdálkodás (Scientific Journal on Agricultural Economics)*, 56(1), 49-57. <https://doi.org/10.22004/ag.econ.141802>
- Tweeten, L. (1987). Has the Family Farm Been Treated Unjustly? In G. Comstock (Eds.), *Is There a Moral Obligation to Save the Family Farm?* (pp. 212-232). Iowa, Ames: Iowa State University Press.
- Upton, N., Teal, E.J., & Felan, J.T. (2001). Strategic and Business Planning Practices of Fast Growth Family Firms. *Journal of Small Business Management*, 39(1), 60-72. <https://doi.org/10.1111/0447-2778.00006>

- Vago, M. (2004). Integrated Change Management: Challenges for Family Business Clients and Consultants. *Family Business Review*, 17(1), 71-80. <https://doi.org/10.1111/j.1741-6248.2004.00005.x>
- Van Leeuwen, C., & Seguin, G. (2006). The Concept of terroir in Viticulture. *Journal of Wine Research*, 17(1), 1-10. <https://doi.org/10.1080/09571260600633135>
- Vrontis, D., Bresciani, S., & Giacosa, E. (2016). Tradition and innovation in Italian wine family businesses. *British Food Journal*, 118(8), 1883-1897. <https://doi.org/10.1108/BFJ-05-2016-0192>
- Williams, R.I. Jr., Pieper, T.M., Kellermanns, F.W., & Astrachan, J.H. (2019). Family business goal formation: a literature review and discussion of alternative algorithms. *Management Review Quarterly*, 69(1), 329-349. <https://doi.org/10.1007/s11301-019-00155-8>
- Williams, R.I. Jr., Pieper, T., Kellermanns, F.W., & Astrachan, J.H. (2018). Family Firm Goals and their Effects on Strategy, Family and Organization Behaviour: A Review and Research Agenda. *International Journal of Management Reviews*, 20(21), S63-S82. <https://doi.org/10.1111/ijmr.12167>
- Wilson, N., Wright, M., & Scholes, L. (2013). Family Business Survival and the Role of Boards. *Entrepreneurship Theory and Practice*, 37(6), 1369-1389. <https://doi.org/10.1111/etap.12071>
- Woodfield, P., & Husted, K. (2017). Intergenerational knowledge sharing in family firms: Case-based evidence from the New Zealand wine industry. *Journal of Family Business Strategy*, 8(1), 57-69. <https://doi.org/10.1016/j.jfbs.2017.01.001>
- Yin, R.K. (2016). *Qualitative Research from Start to Finish*. New York – London: The Guilford Press.
- Zahra, S., Hayton, J., & Salvato, C. (2004). Entrepreneurship in family vs. non-family firms: A resource-based analysis of the effect of organizational culture. *Entrepreneurship Theory and Practice*, 28(4), 363-381. <https://doi.org/10.1111/j.1540-6520.2004.00051.x>
- Zellweger, T.M., & Astrachan, J. (2008). On the emotional value of owning a firm. *Family Business Review*, 4(4), 347-363. <https://doi.org/10.1177/08944865080210040106>
- Zellweger, T.M., Kellermanns, F.W., Chrisman, J., & Chua, J. (2011). Family control and family firm valuation by family CEOs: the importance of intentions for transgenerational control. *Organization Science*, 23(3), 851-868. <https://doi.org/10.1287/orsc.1110.0665>
- Zellweger, T.M., Nason, R.S., Nordqvist, M., & Brush, C.G. (2013). Why do family firms strive for nonfinancial goals? An organizational identity perspective. *Entrepreneurship Theory and Practice*, 37(2), 229-248. <https://doi.org/10.1111/j.1540-6520.2011.00466.x>
- Zellweger, T.M., & Nason, R.S. (2008). A Stakeholder Perspective on Family Firm Performance. *Family Business Review*, 21(3), 203-216. <https://doi.org/10.1177/08944865080210030103>


### Authors

The contribution share of authors is equal and amounted to 25% for each of them.

#### Nóra Vajdovich

PhD Candidate, Doctoral School of Entrepreneurship and Business, Budapest Business School, University of Applied Sciences (Hungary). Her research interests include family business, and economic and non-economic goals.


**Correspondence to:** Vajdovich Nóra, Budapesti Gazdasági Egyetem, Vállalkozás- és Gazdálkodástudományi Doktori Iskola, Buzogány u. 10-12. 1149 Budapest, Magyarország (Hungary) e-mail: vajdovich.nora.10@unibge.hu

**ORCID**  <http://orcid.org/0000-0001-9126-3604>

#### Heidrich Balázs

Professor and Rector of the Budapest Business School University of Applied Sciences, Faculty of Finance and Accountancy, Department of Management (Hungary). His research interests include service management and family business.


**Correspondence to:** Heidrich Balázs, Budapesti Gazdasági Egyetem, Pénzügyi és Számviteli Kar, Menedzsment Tanszék, Buzogány u. 10-12. 1149 Budapest, Magyarország (Hungary) e-mail: heidrich.balazs@uni-bge.hu

**ORCID**  <http://orcid.org/0000-0003-2414-0342>

**Szilárd Németh**

Associate Professor, Budapest Business School University of Applied Sciences, Faculty of Finance and Accountancy, Department of Management (Hungary). His research interests include marketing strategy and family business.


**Correspondence to:** Németh Szilárd, Budapesti Gazdasági Egyetem, Pénzügyi és Számviteli Kar, Menedzsment Tanszék, Buzogány u. 10-12. 1149 Budapest, Magyarország (Hungary) e-mail: nemeth.szilard@uni-bge.hu

**ORCID**  <http://orcid.org/0000-0001-8531-0523>

**Krisztina Németh**

Associate Professor, Budapest Business School University of Applied Sciences, Faculty of Finance and Accountancy, Department of Accountancy (Hungary). Her research interests include family business professionalization and performance.

**Correspondence to:** Németh Krisztina, Budapesti Gazdasági Egyetem, Pénzügyi és Számviteli Kar, Számvitel Tanszék, Buzogány u. 10-12. 1149 Budapest, Magyarország (Hungary) e-mail: nemeth.krisztina2@uni-bge.hu

**ORCID**  <http://orcid.org/0000-0002-0767-7669>

**Acknowledgements and Financial Disclosure**

The article was created within the project no. TKP2020-IKA-01 entitled 'Thematic Excellence Programme of the Hungarian Ministry for Innovation and Technology to Budapest Business School' financed by the Hungarian Ministry for Innovation and Technology conducted by Prof. Balázs Heidrich in the years 2020-2021.

Project no. TKP2021-NKTA-44 has been implemented with the support provided by the Ministry of Innovation and Technology of Hungary from the National Research, Development and Innovation Fund, financed under the TKP2021-NKTA funding scheme.

**Conflict of Interest**

The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

**Copyright and License**

This article is published under the terms of the Creative Commons Attribution – NoDerivs (CC BY-ND 4.0) License  
<http://creativecommons.org/licenses/by-nd/4.0/>

Published by Cracow University of Economics – Krakow, Poland



Ministry of Education and Science  
Republic of Poland

The journal is co-financed in the years 2022-2024 by the Ministry of Education and Science of the Republic of Poland in the framework of the ministerial programme "Development of Scientific Journals" (RCN) on the basis of contract no. RCN/SP/0583/2021/1 concluded on 13 October 2022 and being in force until 13 October 2024.



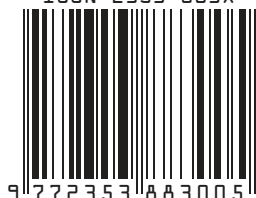
Visit us at [www.eber.uek.krakow.pl](http://www.eber.uek.krakow.pl)



Entrepreneurial Business and Economics Review



ISSN 2353-883X



eISSN 2353-8821

