PhD THESIS

Research on the Success Factors in Entrepreneurship

(SUMMARY OF Ph.D. THESIS)

PhD student Ing. **Garofița Loredana Veja (Ilieș)**

Scientific coordinator **Prof. univ. Dr. Felix Arion**

INTRODUCTION

Entrepreneurship is the main driver of economic development and competitiveness, facilitating the social evolution of various population segments. The economic crisis prompted European Union policymakers to pay increased attention to self-employment and entrepreneurship, considered catalysts for economic recovery. Studies show that micro-enterprises represent between 70-95% of all firms and employ one-third of the private workforce, highlighting the role of entrepreneurship in combating social exclusion and unemployment (OECD, 2017; CATHERINE LAFFINEUR et al., 2017).

Entrepreneurial intentions represent individual judgments regarding the likelihood of starting a business, being the first step in the entrepreneurial process (CRANT, 1996). The motivation, knowledge, and skills necessary, such as sales, leadership, and planning, influence entrepreneurial success (SHANE et al., 2012). Positive attitudes towards entrepreneurship are formed within the family, at school, in society, and at the workplace, reflecting individual beliefs and perceptions determined by personality, education, and experiences (MUELLER, 2004). Thus, entrepreneurial education is essential for developing the skills and attitudes necessary to adapt in a continuously changing global entrepreneurial environment (EUROPEAN COMMISSION, 2020).

PURPOSE AND OBJECTIVES OF THE RESEARCH

Entrepreneurship is an important field of research both internationally and nationally, with multiple factors influencing entrepreneurial success and intention. Understanding the motives behind entrepreneurial intention can improve the entrepreneurial ecosystem in a region. The doctoral thesis discusses the analysis of entrepreneurial intention in Romania and sets objectives to achieve this goal.

- Analyzing the entrepreneurial environment in Romania
- Identifying the perception of entrepreneurship
- Determining the factors that influence the entrepreneurial intention of residents
- Comparative analysis of entrepreneurial intention based on the respondents' education

DATA COLLECTION AND ANALYSIS METHODS

Data were collected online through a Google Forms questionnaire, adapted from LIÑÁN and his collaborators (2011), which evaluates entrepreneurial intention, entrepreneurial capacity, professional attraction, social norms, and socio-demographic characteristics, with data analysis

through specific statistical methods. This questionnaire was distributed on social networks and sent to collaborators from partner universities for dissemination among graduates. Data collection took place between March and December 2021. Only complete forms were validated and subsequently analyzed.

The data collected through the online survey were analyzed using descriptive statistical methods and the Shapiro-Wilk test to verify the normality of the distribution. The t-test was used to evaluate the significance of differences between the mean values of the groups. Multiple linear regression determined the influence of independent variables on entrepreneurial intention. Factor analysis was used to define the structure of the variables and for data reduction, while principal component analysis required a minimum sample of 50 observations and a ratio of 5 observations per variable. Bartlett's test and the KMO criterion verified the adequacy of the data for factor analysis, and the selection of factors was based on eigenvalues and explained variance.

MAIN RESULTS

Principal component analysis was conducted based on eigenvalues to assess the dimensionality of the 20 items (Table 6.18). To adhere to the rules of principal component analysis, a minimum ratio of 10:1 between the number of valid observations and the number of items analyzed was ensured. The overall Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy is 0.94, and Bartlett's test of sphericity is significant (χ^2 = 14645.06, $p < 0.000$), indicating that the data are suitable for principal component analysis (KAISER, 1974; DING and HE, 2004). Analyzing the communalities' values resulting from the application of the principal component method, it was decided to retain all variables in the analysis. The retention of the number of factors was done by applying the eigenvalue ≥ 1 rule. Following the principal component analysis with Varimax rotation and Kaiser normalization, a solution with four factors, with eigenvalues between 1.127 and 11.99, was retained. This solution explains 82.3% of the total variance. The factor loadings exceed the minimum recommended values of ±0.300 (HAIR et al., 2013).

The first factor, "**Entrepreneurial intention**," represents 59.96% of the variance, with an eigenvalue of 11.99. It has a mean of 4.42 ± 1.88 and good internal consistency (α = 0.967). It consists of six items, including the intention to start a business (4.70 ± 2.113), the necessary efforts (4.44 ± 1.996), the professional objective (4.15 ± 2.015), and the necessary sacrifices (3.95 ± 1.888).

The second factor, "**Entrepreneurial capacity**" (4.23 ± 1.71), represents 9.91% of the variance and has an eigenvalue of 1.982. Cronbach's alpha test (α = 0.953) indicates good internal consistency. It includes six items about the practical details of starting a business (4.26 ± 1.978), the knowledge for developing an entrepreneurial project (4.15 ± 1.935), the process of creating a new business (4.25 ± 1.894), and confidence in one's abilities (4.48 ± 1.824).

The third factor, "**Professional attraction**," has good internal consistency (α = 0.945), an eigenvalue of 1.366, and a variance of 6.831%. It consists of five items about the attractiveness of being an entrepreneur (5.07 ± 1.800), the necessary resources and opportunities (5.49 ± 1.695), the satisfaction of being an entrepreneur (5.31 ± 1.680), and the advantages of entrepreneurship (5.00 ± 1.584).

The fourth factor, "**Social valuation**," consists of three items with good internal consistency (α = 0.809). Respondents mentioned that entrepreneurial support comes from family members (5.49 ± 1.725) and colleagues (5.49 ± 1.625). This factor has an eigenvalue of 1.127 and explains 5.636% of the total variance of the model.

Tabelul 6.18.
Table 6.18.

Analiza componentelor principale
Principal component analysys results

Valoarea proprie/ Eigenvalue	Varianţa/ Variance %	Factor/ Factor	Item / Item	Încărcările factorilor/ Factor Loading	Media/ Mean	DS/ SD
11.994	59.969	Intenţia antreprenorială/ Entrepreneurial intention mean = 4.42 SD = 1.8897	Sunt hotărât să demarez o afacere în viitor/ I'm determined to create a firm in the future	0,893	4,54	2,093
			Am intenţia fermă de a demara o afacere într-o zi/ I've got the firm intention to start a firm some day	0,869	4,70	2,113
			M-am gândit foarte serios la înfiinţarea unei afaceri/ I have very seriously thought about starting a firm	0,867	4,62	2,031
			Voi depune toate eforturile pentru a demara propria afacere/ I will make every effort to start	0,802	4,44	1,996

			and run my own firm			
			Scopul meu profesional este să devin un antreprenor/ My professional goal is becoming an entrepreneur	0,756	4,15	2,015
			Sunt gata să fac orice pentru a fi antreprenor/ I'm ready to do anything for becoming an entrepreneur	0,647	3,95	1,888
1.982	9.910	Capacitatea antreprenorială/ Entrepreneurial capacity mean = 4.23 SD = 1.7168	Știu cum să dezvolt un proiect antreprenorial/ I know how to develop an entrepreneurial project	0,834	4,15	1,935
			Cunosc detaliile practice necesare pentru a începe o afacere/ I know the necessary practical details to start a firm	0,811	4,26	1,978
			Pot controla procesul de creare a unei noi afaceri/ I can control the creation process of a new firm	0,807	4,25	1,894
			Sunt pregătit să încep o afacere viabilă/ I'm prepared to start a viable firm	0,721	4,33	1,895
			Dacă aș încerca să încep o afacere, aș avea o mare probabilitate de a reuși/ If I tried to start a firm, I would have a high probability of succeeding	0,718	4,48	1,824
			Demararea unei afaceri și apoi menținerea sa în activitate, ar fi relativ simplu pentru mine/ Starting a firm and keeping it working would be easy for me	0,702	4,18	1,736
1.366	6.831	Atracția profesională/ Professional attraction mean = 5.21 SD = 1.5534	A fi antreprenor mi-ar aduce multe satisfacții/ Being an entrepreneur would entail great satisfaction for me	0,826	5,31	1,680
			Dintre diversele opțiuni mi-aș dori să fiu antreprenor/ Among various options, I'd rather be an entrepreneur	0,810	5,17	1,756
			O carieră ca și antreprenor este atractivă pentru mine/ A career as entrepreneur is	0,785	5,07	1,800

			attractive for me			
			Dacă aş avea ocazia şi resursele, aş dori să încep o afacere/ If I had the opportunity and resources, I'd like to start a firm	0,771	5,49	1,695
			A fi antreprenor presupune mai multe avantaje decât dezavantaje/ Being an entrepreneur implies more advantages than disadvantages to me	0,686	5,00	1,584
1.127	5.636	Norme sociale/ Social valuation mean = 5.34 SD = 1.4224	În rândul prietenilor/ Your friends	0,876	5,08	1,651
			În rândul colegilor/ Your colleagues and mates	0,861	5,49	1,625
			În mediul familial/ Your close family	0,700	5,49	1,725
Total variance %	82,346,	α = 0,963				

Sursa: adaptare după GAROFIŢA LOREDANA ILIEŞ şi colab. (2023)
Source: adapted after GAROFIŢA LOREDANA ILIEŞ et al. (2023)

Based on the model, the following hypotheses were stated:

H1: Entrepreneurial capacity has a significant influence on entrepreneurial intention.

H2: Professional attraction has a significant influence on entrepreneurial intention.

H3: The social environment (social norms) has a significant influence on entrepreneurial intention.

H4: Entrepreneurial education has a significant influence on entrepreneurial intention.

The results of the regression analysis (Table 6.19) showed that the independent variables significantly predict entrepreneurial intention, $F(4, 577) = 235.58$, $p < 0.05$. Entrepreneurial intention is positively influenced by the economic environment/entrepreneurial education ($\beta = 0.280$, $p < 0.05$), entrepreneurial capacity ($\beta = 0.527$, $p < 0.05$), and professional attraction ($\beta = 0.476$, $p < 0.05$), but is negatively influenced by social norms ($\beta = -0.102$, $p < 0.05$). The results support all four hypotheses stated earlier.

Tabelul 6.19.
Table 6.19.

Modelul de regresie
Regression analysis.

Variabile / Variables	Model /Model
Variabila dependentă / Dependent variable	
Intenția antreprenorială/ Entrepreneurial intention	
Variable independene / Independent variables	
Constanta / Constant	0,110 ***
Background economic/educație antreprenorială / Economic background/entrepreneurial education [1]	0,280 ***
Capacitatea antreprenorială/ Entrepreneurial capacity	0,527 ***
Atracția profesională/ Professional attraction	0,476 ***
Norme sociale/ Social valuation	−0,102 ***
R^2	0,620

Notă: Nivel de semnificație: *** 0,1%; 1 mediul economic/educația antreprenorială variabilă dummy: 1 da, 0 nu/ Note: Sig. level: *** 0.1%; economic background/entrepreneurial education dummy variable: 1 yes, 0 no.
Sursa: adaptare după GAROFIȚA LOREDANA ILIEȘ și colab. (2023)
Source: adapted after GAROFIȚA LOREDANA ILIEȘ et al. (2023)

The results of the regression analysis revealed that entrepreneurial intention is significantly positively influenced by entrepreneurial education, entrepreneurial ability, and professional attraction, while these are significantly negatively influenced by social validation. These results differ from those in the studies by LINDQUIST et al. (2015) and FATOKI (2014), which found that parental support for entrepreneurial activities could influence interest in entrepreneurship. However, the results are consistent with those of OZARALLI and RIVENBURGH (2016), LIÑÁN et al. (2005), and MUELLER (2006), who reached similar conclusions regarding the influence of family on entrepreneurial intention.

Two models were developed to analyze the regression of the group with economic/entrepreneurial studies (Table 6.29.).

Model 1 includes control variables (age, gender, income, knowledge about loans, and technical assistance for starting a business) and explains 11.6% of the variance.

Model 2 adds independent variables (professional attraction, entrepreneurial ability) and explains 60.5% of the variance. Model 2 indicated that the independent variables significantly predict entrepreneurial intention, $F(6,305) = 77.25$, $p < 0.001$. Entrepreneurial intention is positively influenced by knowledge about technical assistance ($\beta = 0.172$, $p < 0.001$), professional attraction ($\beta = 0.327$, $p < 0.001$), and entrepreneurial ability ($\beta = 0.719$, $p < 0.001$), but negatively influenced by

age (β = -0.032, p < 0.001) and social evaluation (β = -0.230, p < 0.001). The results support the hypotheses but indicate a negative impact of social evaluation on entrepreneurial intention. These findings are consistent with previous research on the positive influence of entrepreneurial ability on entrepreneurial intention (LIÑÁN et al., 2011; PĂUNESCU et al., 2018).

Tabelul 6.29.
Table 6.29.

Analiza regresiei (studii economice)
Regression analysis (economic background).

Variabilele dependente/ Dependent variable	Model 1	Model 2
Intenţia antreprenorială/ Entrepreneurial intention		
Variabilele independente/ Independent variable		
Constanta/ Constant	4,482***	1,935***
Cunoştinţe despre împrumuturi în condiţii favorabile/ Knowledge about loans in favorable terms	-0,260***	-0,180***
Cunoştinţe despre asistenţa tehnică pentru începerea afacerii/ Knowledge about technical aid to start the business	0,490**	0,172***
Vârsta/ Age	-0,026*	-0,032***
Genul/ Gender	n.s.	-
Venitul/ Income	n.s.	-
Atracţia profesională/ Professional attraction	-	0,327***
Capacitatea antreprenorială/ Entrepreneurial capacity	-	0,719***
Norme sociale/ Social valuation	-	-0,230***
R^2	0,116	0,605

Sursa: adaptare după GAROFIŢA LOREDANA ILIEŞ şi colab. (2024). Notă: nivel de semnificaţie: ***- 0,1%; **- 1%; *- 5%; n.s. – nu e semnificativ
Source: adapted after GAROFIŢA LOREDANA ILIEŞ et al. (2024); Note: significance level: ***- 0.1%;**- 1%; *- 5%; n.s.-not significant.

CONCLUSIONS AND RECCOMENDATIONS

Residents of the Northwest and West regions of Romania are attracted to entrepreneurship, especially the youth, men, and those with economic studies, but they are dissatisfied with the current entrepreneurial education, indicating the need to adapt the curriculum and promote funding programs for women.

The study shows that respondents with economic studies have a higher entrepreneurial intention, a positive perception of their abilities, and a preference for an entrepreneurial career, influenced by entrepreneurial education and resource support, compared to those without economic studies.

The research emphasizes the importance of entrepreneurial education in the North-West and West regions of Romania and suggests

expanding studies to other regions and analyzing socio-demographic factors to adapt curricula and support entrepreneurial education and funding programs.

The research results suggest improving entrepreneurial education, informing policy decisions, and supporting economic development by simplifying administrative procedures, providing financial support for startups, and involving the business community in mentoring and access to resources.

ORIGINALITY AND INNOVATIVE CONTRIBUTIONS

The thesis tests entrepreneurial intentions using a well-established instrument, initially applied to students, providing a detailed understanding of entrepreneurial trends in the Northwest and West regions of Romania. It extends research beyond the limits of previous studies, contributing to a comprehensive national study.

The current topic addressed highlights relevant issues in entrepreneurship, being pertinent both to the academic field and to practical applications, offering useful insights for future research and policies.

An innovative contribution of the thesis is the creation of a customized research tool for measuring entrepreneurial intentions, adapted to the socio-economic and cultural context of Romania. This tool employs a questionnaire based on existing models and theories but adjusted for the Romanian specificities.

The practical implications of the research are significant. The recommendations could shape educational curricula, develop entrepreneurial education programs, guide funding projects, and support aspiring students and entrepreneurs. Higher education should include more entrepreneurship courses to enhance students' self-efficacy and practical knowledge.

The thesis contributes original research and provides innovative tools and perspectives applicable in various practical contexts, thus supporting a more favorable environment for entrepreneurship in Romania.

SELECTIVE BIBLIOGRAPHY

1. Crant, J. M. (1996). The proactive personality scale as a predictor of entrepreneurial intentions. *Journal of Small Business Management*, 34(3), 42-49.

2. Ding, C. S., & He, X. (2004). K-means clustering via principal component analysis. *Proceedings of the 21st international conference on Machine learning*.

3. European Commission. (2020). *Entrepreneurial Education in Europe: Current State and Future Challenges*. Publications Office of the European Union.

4. Fatoki, O. (2014). The entrepreneurial intention of undergraduate students in South Africa: The influences of entrepreneurship education and previous work experience. *Mediterranean Journal of Social Sciences*, 5(7), 294.

5. Hair, J. F., Ringle, C. M., & Sarstedt, M. (2013). Partial least squares structural equation modeling: Rigorous applications, better results and higher acceptance. *Long range planning*, 46(1-2), 1-12.

6. Ilieş G.L., I.C., Mureşan, I.D., Arion, F.H. Arion, 2023, The Influence of Economic and Entrepreneurial Education on Perception and Attitudes towards Entrepreneurship, *Administrative Sciences*, 13(10), 212.

7. Ilieş, Garofiţa Loredana, Iulia Cristina Mureşan, and Felix Horaţiu Arion. 2024. "Driving Entrepreneurship in Romania: Insights from Regional Perspectives." ProEnvironment Promediu 17, no. 57.

8. Kaiser, H. F. (1974). An index of factorial simplicity. *Psychometrika*, 39(1), 31-36.

9. Laffineur, C., Denis, D., & Lallement, F. (2017). *Entrepreneurship as a Factor in Combating Social Exclusion*. OECD Publishing.

10. Liñán, F., Rodríguez-Cohard, J. C., & Rueda-Cantuche, J. M. (2005). Factors affecting entrepreneurial intention levels: A role for education. *International Entrepreneurship and Management Journal*, 7(2), 195-218.

11. Liñán, Francisco, Juan Carlos Rodríguez-Cohard, and José M. Rueda-Cantuche. 2011. Factors affecting entrepreneurial intention levels: A role for education. *International Entrepreneurship and Management Journal* 7: 195–218.

12. Lindquist, M. J., Sol, J., & Van Praag, M. (2015). Why do entrepreneurial parents have entrepreneurial children? *Journal of Labor Economics*, 33(2), 269-296.

13. Mueller, S. L. (2004). Gender gaps in entrepreneurship: The impact of family and work experiences. *International Journal of Entrepreneurial Behavior & Research*, 10(1), 20-39.

14. Mueller, S. L. (2006). Exploring the knowledge filter: How entrepreneurship and university-industry relationships drive economic growth. *Research Policy*, 35(8), 1076-1086.

15. OECD. (2017). *Micro-enterprises and Employment: A Global Perspective*. OECD Publishing.

16. Ozaralli, N., & Rivenburgh, N. K. (2016). Entrepreneurial intention: antecedents to entrepreneurial behavior in the U.S.A. and Turkey. *Journal of Global Entrepreneurship Research*, 6(1), 3.

17. Păunescu, C., Drăgan, D., & Drăgan, G. (2018). Entrepreneurial intentions of Romanian students: A study on the relevance of entrepreneurial education. *Amfiteatru Economic*, 20(48), 315-330.

18. Shane, S., Locke, E. A., & Collins, C. J. (2012). Entrepreneurial motivation. *Human Resource Management Review*, 22(3), 237-250.