

Factors Affecting Entrepreneurial Behavior of Students in Hanoi City: The Role of Entrepreneurial Intention and Innovation Capacity

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Abstract

This study explores the impact of innovation capacity on the entrepreneurial behavior of university students in Hanoi City. It also examines entrepreneurial intention as an intermediate variable in the relationship between innovation capacity and entrepreneurial behavior. The research data was collected using Google Forms with 1050 valid questionnaires from a survey of university students studying in Hanoi City. The authors performed data analysis using linear structural equation modeling (SEM). Research results show a positive relationship between innovation capacity and entrepreneurial behavior through the variable of entrepreneurial intention. Thereby, the authors propose management implications to improve the entrepreneurial behavior of Vietnamese students in today's emerging economy.

Keywords: Entrepreneurial behavior, innovation capacity, entrepreneurial intention, grit, absorptive capacity, quality of university teaching, cognitive of student.

1. INTRODUCTION

In the modern economic context, startups are an indispensable part of each country's development, an essential driving force in promoting regional economic growth, and the main driving force for strengthening economic growth, reforming the supply-side structure, and implementing an innovation-oriented development strategy. Innovation is the foundation of entrepreneurship. It is a strong driving force for economic development and the core of high-quality development (Han et al., 2024). Startup businesses have created new economic momentum through different creative directions and methods. According to data from the General Statistics Office, in 2022, there will be 148,500 new businesses nationwide, with a total registered capital of 1,590.9 trillion VND. The number of companies has increased by 27.1%, although registered capital decreased slightly by 1.3% compared to 2021.

In addition, the document of the 13th National Congress of the Party affirms that science, technology, and innovation are critical strategic breakthroughs for a country to move towards rapid development and sustainability. Therefore, supporting and encouraging the start-up development of each new business is an indispensable part of economic policy for each country. Recognizing the importance of startups, the Vietnamese government implements many preferential and supportive policies to encourage the development of startups and individuals, especially students, following the "Supporting students to start a business until 2025" proposal (issued under Decision No. 1665/QĐ-TTg, dated October 30, 2017, by the Prime Minister).

However, given the limited domestic R&D capacity and shortage of connecting networks among universities, research institutes, and business sectors, only 20% of Vietnam's innovative startups have brought new products

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and services to the international market. While most of Vietnam's innovative startups only focus on the domestic market, only 12% of those have received ideas from research bodies and universities. Furthermore, entrepreneurship rates among students still need to improve, as most graduates apply to existing companies instead of starting a business. Although about 400,000 students graduate yearly, up to 225,000 students are unemployed because their capacity is insufficient to operate a startup.

Therefore, in this study, we will focus on exploring the factors that influence students' entrepreneurial behavior, emphasizing the critical role of innovation in promoting entrepreneurial behavior among students through entrepreneurial intentions. We chose Hanoi as our main regional focus because Hanoi is the academic, cultural, and economic center of Vietnam, with many potential universities and research institutes, Hanoi is also one of the fastest-growing cities for startups and innovation in Vietnam. This helps ensure that there is a rich and diverse student pool available to engage in research. Our research aims to improve innovation capacity and promote creative startups while students are still in studying progress. Additionally, we hope that our further research on the role of schools and students in the innovation process will not only add theoretical value but also contribute to developing policies and activities to support innovation in Vietnam.

2. THEORETICAL FOUNDATION AND RESEARCH MODEL

2.1 Theoretical foundation

2.1.1. The theory of Planned Behavior (TPB)

The Theory of Planned Behavior (TPB), an extension of the Theory of Reasoned Action (TRA) developed by Ajzen & Fishbein and their colleagues, discusses a factor that determines behavioral intention through an individual's attitude towards the behavior (Ajzen I. , 1991; Ajzen & Fishbein, 1975). With the Theory of Reasoned Action (TRA), the authors have pointed out that the most crucial factor determining human behavior is the intention to perform that behavior. The first two factors are the same as in the Theory of Reasoned Action (Ajzen & Fishbein, 1975). The third factor is the perceived behavioral control, which refers to the control an individual perceives over their behavior.

2.1.2. The Grit theory

Duckworth's Grit theory on new developments is built based on the Big Five theoretical framework, which describes personal traits to predict their success (Goldberg L. R., 1990; McCrae & Costa, 1987; Tupes & Christal, 1992). Grit represents a person's perseverance and passion for achieving long-term goals or endurance over time (Duckworth et al., 2007). It is reflected in a person's striving to exercise resilience, conscientiousness, autonomy, and persistence in problem-solving (Bashant, 2014). Thus, grit allows us to predict a person's performance in a field where the ability to overcome challenges is more important than measuring talents (Duckworth & Quinn, 2009).

In a 2007 study, Duckworth and her colleagues overlooked the timing of questions about goal setting and persistence, how values and expectations impact goal achievement, and how situation factors and cultural or social variables affect performance. As a result, the grit scale contains two components: (1) interest and (2) effort. Each component, respectively, has six variables observed through the self-report/survey method and is continued to improve the complete grit scale, called the "Short Grit Scale," with four corresponding observed variables in each component (Duckworth & Quinn, 2009). To summarize, the Grit theory was discovered by Duckworth and her colleagues in 2007 and is continuously being researched to prove its impact on student learning outcomes (Luthans et al., 2019). Hence, the authors chose to use a grit scale in this study.

2.1.3. The theory of absorptive capacity (AC)

The concept of absorptive capacity (AC) was developed by Cohen and Levinthal in 1990 and has been widely accepted over the years. Cohen and Levinthal defined AC as the process of handling knowledge by recognizing value, assimilating, and applying new knowledge. This definition evaluates AC in the R&D departments, subsequently helping employees adapt to new knowledge more quickly, thereby increasing the company's absorptive capacity. The AC framework is widely used and rapidly being developed across various research fields, including both theoretical and empirical, with over 1,300 citations and more than 600 published papers. Thus, the theory of absorptive capacity refers to the ability to recognize, acquire, integrate, and apply new external knowledge to enhance competitive advantages (Nguyen , 2017). AC helps individuals identify, learn, and understand new or unique knowledge from critical external sources related to their current work (Cohen & Levinthal, 1990).

2.1.4. Innovation Capacity

Individual innovation capacity (also known as individual innovation capability or individual innovation competence) is a combination set of qualities, knowledge, skills, and attitudes to create new and unprecedented things (Hero et al., 2017). Like other capabilities, individual innovation capability can be learned, practiced, and developed (Bruton, 2011; Peschl et al., 2014). It is a crucial factor that supports organizations to build competitive advantages in today's rapidly changing environment (Kalyar, 2011). Like individual innovation capacity, group innovation capacity is the ability of a group to generate and implement new improvements. For students, the research shows that innovation capacity is a learning outcome in higher education (Meiju & Liisa, 2019). The individual innovation capability scale identifies a person's capabilities related to various organizational innovation processes.

2.2 Hypothesis and research model

2.2.1. Grit

An international study (Duckworth et al., 2007) has discovered that intelligence and many other factors, such as creativity, vitality, emotional intelligence, reputation, confidence, emotional stability, physical attractiveness, and other favorable qualities, play an essential role in achieving success. Among them, 'Grit' is one of the most crucial factors for individuals (Tupes & Christal, 1992; Bashant, 2014; Luthans et al., 2019; Bruton, 2011; Kalyar, 2011; Peschl et al., 2014; Keinänen et al., 2018; Goldberg L. R., 2001; Lane et al., 2006). Grit includes perseverance and passion for achieving long-term goals. It is demonstrated through the efforts to develop resilience, dedication, conscientiousness, and persistence in problem-solving. Therefore, grit requires hard work while facing challenges, maintaining effort, and nurturing interest over a long period, despite difficulties and failures, while continuously pursuing successes (Duckworth et al., 2007). Thus, given the high reliability of the latest grit scale, the authors have applied the grit scale in this study with the following hypothesis:

H1.1: Grit (GR) positively impacts students' innovation capacity (IC).

H1.2: Grit (GR) positively impacts students' entrepreneurial intention (EI).

2.2.2. Quality of teaching

(Liñán et al., 2011) argues that knowledge capital consists of the knowledge students acquire from training activities related to their entrepreneurial endeavors. According to Vila and colleagues (2012), higher education plays a crucial role in accumulating the necessary skills to identify opportunities for improvement, search for new solutions, evaluate them, and effectively allocate resources (Vila et al., 2012). The instructors' teaching methods play an essential role in the students' process of conveying knowledge and influence the student's needs to develop specific skill sets to drive innovation.

H2: The quality of teaching (QT) positively impacts students' innovation capacity (IC).

2.2.3. Absorption capacity

Absorptive capacity is the next variable included in the research model. In the entrepreneurial innovation field, very little research provides evidence of its relationship with students' entrepreneurial innovation. Absorptive capacity (Finn, 1989) and (Voelkl, 1996) argue that emotional engagement, referring to positive emotions toward knowledge and skills, suggests that greater intrinsic motivation helps students engage more with learning. Reflecting on information, knowledge, or issues and being willing to complete complex and challenging tasks is considered cognitive engagement (Corno & Mandinach, 1983; Lamborn, 1992). When students first receive the knowledge and skills from their mentors, such as teachers or peers, they often show basic signs of liking and reflecting on the usefulness/necessity of such knowledge, but only to a low degree. According to this argument, the higher the AC of students, the more likely they find the transmitted knowledge enjoyable and attractive, leading to more expressions of enthusiasm. Additionally, students with high AC and a deep understanding of the provided knowledge and skills are more likely to apply them to achieve positive results in practices and continuously strive to explore and learn more about the challenging and complex issues (e.g., more focusing, reading additional books, proactively researching, starting businesses, etc.). Thus, the hypothesis here is:

H3.1: Absorptive capacity (AC) positively impacts students' innovation capacity (DMST).

H3.2: Absorptive capacity (AC) positively impacts students' entrepreneurial intention (EI).

2.2.4. Cognitive Capacity of Student

Matejun (2017) proposed an analytical framework for the experience environment, focusing on three main factors, including perception, emotion, and social aspects. Matejun's research (2017) emphasizes that positive perceptions and feelings about engaging in innovative behaviors will enhance an individual's innovation capability. If individuals believe that they are expected to participate in creative behaviors, they may be willing to invest time and energy into these behaviors (Matejun, 2017). Therefore, the cognitive scale proposed by Matejun (2017) has provided a new approach for evaluating the experience environment in the delivery field and proved the usefulness of research on perception in innovation. Specifically, this scale aligns with the authors' research goals, subjects, and context.

H4: Cognitive capacity of Student (CS) positively impacts students' innovation capacity (IC).

2.2.5. Student Innovation Capacity

Individual innovation capacity, also known as individual innovation capability or individual innovation competence, is a combination set of qualities, knowledge, skills, and attitudes to create new and unprecedented things (Hero et al., 2017). Like other capabilities, individual innovation capability can be learned, practiced, and developed (Bruton, 2011). It is a crucial factor that supports organizations to build competitive advantages in today's rapidly changing environment. Similar to individual innovation capacity, group innovation capacity is the ability of a group to generate and implement new improvements. For students, the research shows that innovation capacity is a learning outcome in higher education (Meiju & Liisa, 2019). The individual innovation capability scale identifies a person's capabilities related to various organizational innovation processes.

H5: Students' innovation capacity (IC) has a positive impact on students' entrepreneurial intention (EI).

2.2.6. Entrepreneurial intention of students

The theory of entrepreneurship and the theory of planned behavior suggest that intention is an essential predictor of human behavior. The research by Randall and Wolff also indicated that the relationship between intention and behavior remains stable over time (Randall & Wolff, 1994). Another study further shows a positive correlation between intention and behavior in the context of entrepreneurship, with intention explaining about 28% (equivalent to $r=0.53$) of the student's behavior variance (Schlaegel & Koenig, 2014).

H6: Students' entrepreneurial intention (EI) has a positive impact on students' entrepreneurial behavior (EB).

2.2.7. Proposed research model

Based on both domestic and international studies that inherit and select factors influencing students' entrepreneurial behavior, such as Shapero's research (1982) and the Theory of Planned Behavior (TPB) by Ajzen (1991), the authors have also included additional independent variables in the study to improve the accuracy of predicting factors affecting students' entrepreneurial behavior. Particularly, students' innovation capability is essential in generating innovation and executing entrepreneurial behaviors. In this study, the authors use Structural Equation Modeling (SEM) to test the model and the proposed research hypotheses. In particular, we will test both the linear structural model (SEM) and the bootstrapping model in this research. While SEM shows its complexity, we will use bootstrapping to assess the reliability of path coefficient estimates, regression weights, and non-linear parameter estimation.

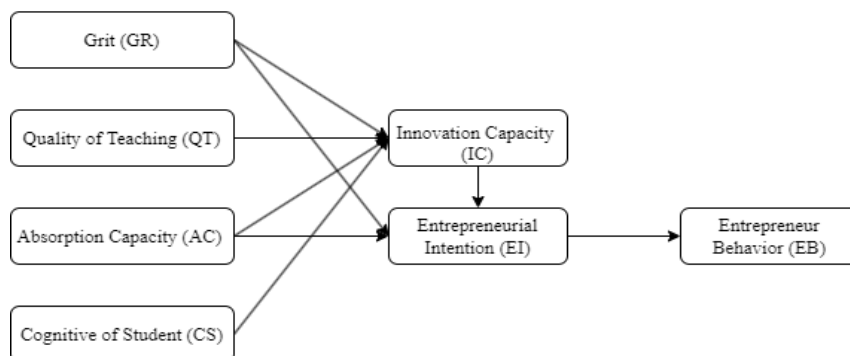


Figure 1: Proposed research model

3. RESEARCH METHODS

The research was conducted using a combination of qualitative and quantitative research methods. The primary data was collected online via Google Forms, with the interview subjects being university students in Vietnam. The primary data was surveyed from October 2023 to February 2024. Secondary data is collected from domestic and foreign research as factors included in the model, and the theoretical models are original and reliable.

The sampling method of the study is a non-probability sampling method based on the list of students in the Economics major, which the author collects until there are enough observations as required. In this study, we chose non-probability sampling, which allows us to quickly collect data from individuals who are readily available and easy to access. With a large sample size, non-probability sampling can minimize costs and time. However, the results from non-probability samples may be limited in terms of generalizability and representativeness. This study's sample size was 1050, which Comrey and Lee (1992) determined to be an excellent level. After being collected from survey subjects, data will be encrypted, cleaned, and analyzed using SPSS 22.0 and Amos 20.0 software. Applied data analysis methods include Cronbach's Alpha coefficient analysis, exploratory factor analysis (EFA), confirmatory factor analysis (CFA), and linear structural model analysis (SEM) to test the model and research hypotheses. This study needs to identify the relationships between independent variables, dependent variables, and mediating variables, demonstrating the impact of different factors. SEM provides indices to assess the model's fit with the data. Therefore, using the SEM model helps us adjust and improve the model more effectively.

4. RESEARCH RESULTS AND DISCUSSION

4.1 Test Cronbach's Alpha reliability coefficient

The analysis results of Cronbach's Alpha reliability coefficient in Table 1 show valid Cronbach's Alpha results greater than 0.6. All observed variables have a total correlation coefficient greater than 0.3. Therefore, the scale is suitable for use in the EFA exploratory factor analysis step to test its value.

Table 1.1: Cronbach's Alpha results of independent and dependent variables

Observed variables	Coefficient if variables are eliminated	Total Cronbach's Alpha coefficient
Grit (GR)	BB1 (0.923), BB2 (0.887), BB3 (0.883), BB4 (0.881), BB5 (0.881)	0.913
Quality of Teaching (QT)	GV1 (0.909), GV2 (0.913), GV3 (0.903)	0.937
Absorption Capacity (AC)	HT1 (0.931), HT2 (0.927), HT3 (0.931), HT4 (0.926)	0.946
Cognitive of Students (CS)	NT1 (0.897), NT2 (0.883), NT3 (0.898)	0.926
Innovation Capacity (IC)	DMST1 (0.935), DMST2 (0.926), DMST3 (0.928), DMST4 (0.936)	0.948
Entrepreneurial Intention (EI)	KN1 (0.909), KN2 (0.879), KN3 (0.894)	0.927
Entrepreneur Behavior (EB)	HV1 (0.834), HV2 (0.820), HV3 (0.816), HV4 (0.851)	0.867

Table 1.2: Collinearity diagnostics

Collinearity Statistics	
Tolerance	VIF
GR0.321	3.116
QT0.356	2.805
AC0.259	3.860
CS0.347	2.883

a. Dependent Variable: IC

We can see that none of the VIF values for the independent variables are greater than 5. Hence, there is no multicollinearity, and there is no high correlation between the independent variables.

4.2 Results of exploratory factor analysis (EFA)

4.2.1. EFA analysis results for independent variables

The results of the second EFA exploratory factor analysis of the remaining 14 observed variables show that all factors have KMO coefficient = 0.953 < 1, sig Bartlett's Test = 0.000 < 0.05 satisfies the condition, the variables

are correlated with each other, and the data material is suitable for EFA. The total variance extracted represents the level of explaining the data variation, reaching 82.72 %, which shows that the scales meet the requirements.

Table 2: Results of final exploratory factor analysis

Observed variables	Factor			
	1	2	3	4
BB3	0.851			
BB4	0.809			
BB2	0.737			
BB5	0.729			
HT1		0.747		
HT2		0.744		
HT4		0.726		
HT3		0.699		
GV2			0.809	
GV3			0.802	
GV1			0.801	
NT1				0.793
NT2				0.780
NT3				0.777
KMO				0.953
Sig. (Bartlett's Test)				0.000
Total variance extracted (%)				85.721

4.3.2. EFA analysis results for the dependent variable

EFA factor analysis for the innovation capacity scale: The results of the 04 observed variables of this scale are all accepted. The KMO coefficient is 0.869, the extracted variance is 86.42%, and factor loading is factor loading. The factors of the 04 observed variables are all greater than 0.5. The Eigenvalue coefficient reached 3.457, which meets all the requirements. Just as the factor analysis of entrepreneurial intention and behavior, the coefficients meet the scale requirements to conduct confirmatory factor analysis.

Table 3: Summary of EFA analysis results for the dependent variable

The scale	KMO coefficient	P-value	Eigenvalue coefficient	Total Variance Explained
Innovation Capacity (IC)	0.869	0.000	3.457	86.42 %
Entrepreneurial Intention (EI)	0.761	0.000	2.617	87.24 %
Entrepreneur Behavior (EB)	0.781	0.000	2.864	71.61 %

(Source: Authors' analysis results, 2024)

EFA analysis results show that the total variance explained is > 50%, and the factor loadings of all factors are > 0.5. The coefficient $0 < \text{KMO} < 1$ and the Eigenvalue coefficient of the factors are both greater than 1, so all factors are retained for analysis.

4.3 Confirmatory factor analysis (CFA) results

Based on Figure 2, the chi-square tests of the model reach the critical value with $p\text{-value} = 0.000 < 0.05$. Theoretically, P-value must be over 0.05 to make CFA appropriate and indicate that the model may fit the data. However, due to its sensitivity to sample size, P-value is not the only indicator to be considered. Therefore, it is necessary to combine it with other indices such as CFI, TLI, and RMSEA to further evaluate the model's fit in CFA. The criteria $\text{Chi-square/df} = 3.209 < 5$ is acceptable (Hu & Bentler, 1999), $\text{TLI index} = 0.977 > 0.9$, $\text{GFI} = 0.942 > 0.9$, $\text{CFI} = 0.981 > 0.9$; $\text{RMSEA index} = 0.047 < 0.6$ is good. Thus, all indicators meet the requirements. This measurement model is consistent with market data, and there is no correlation between measurement errors, so it achieves monadicity. The standardized weights are all greater than 0.5, so they are statistically significant, and the concepts achieve convergent validity. Therefore, the measurement scales in the research model are all reliable. In conclusion, the research model is suitable for further SEM linear structural analysis (Taylor et al., 1993).

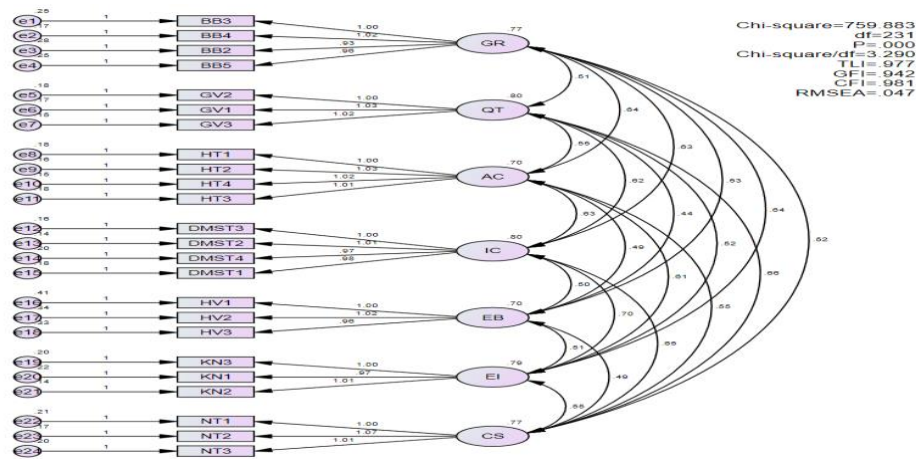


Image 2: Results of confirmatory factor analysis CFA

4.4 Results of SEM linear structural model analysis

The results of SEM model analysis show that the p-value of the hypothesis about the relationships between concepts is significant ($P\text{-value} < 0.005$), so it is necessary to consider additional indices such as CFI, GFI, TLI, and RMSEA to further evaluate the model's fit in SEM; the indexes $TLI = 0.971$, $GFI = 0.933$, $CFI = 0.975$, and $RMSEA = 0.052$. Standardized weights impact innovation capacity, innovation capacity positively impacts entrepreneurial intention, and entrepreneurial intention positively impacts entrepreneurial behavior.

Among them, students' cognitive capacity is the factor with the most substantial influence on their innovation capacity (0.37), showing that students are aware of the importance of innovation capacity. The curriculum and learning environment will help enhance students' entrepreneurial intentions and behavior in the digital era. In addition, innovation and entrepreneurship often come with many failures and difficulties. Therefore, students who persevere (0.29; 0.30) can stand up after failures more quickly than others by learning from mistakes and continuing to achieve their goals.

Besides grit, absorptive capacity (0.24; 0.10) is also an indispensable internal factor of students in the innovative startup process. Good absorption ability helps students quickly grasp new knowledge, technology trends, and market information. This ability is vital in startups and innovation when the business environment changes rapidly and continuously, requiring updated knowledge and skills like today. The QT factor shows that the quality of university teaching (0.94), although having a positive impact, does not motivate students to start a business in Vietnam compared to other factors in the author's model.

Innovative capacity strongly impacts entrepreneurial behavior through students' entrepreneurial intention (0.54), showing that innovation capacity is an indispensable competency in the entrepreneurial process. Innovative capacity helps students make a difference, promoting enterprising thinking. That is also consistent with the view with (Shane & Venkataraman, 2000) that the ability to identify opportunities in innovation is one of the key factors that promote entrepreneurial behavior. Successful entrepreneurs are often able to see gaps in the market and exploit them to create new products or services.

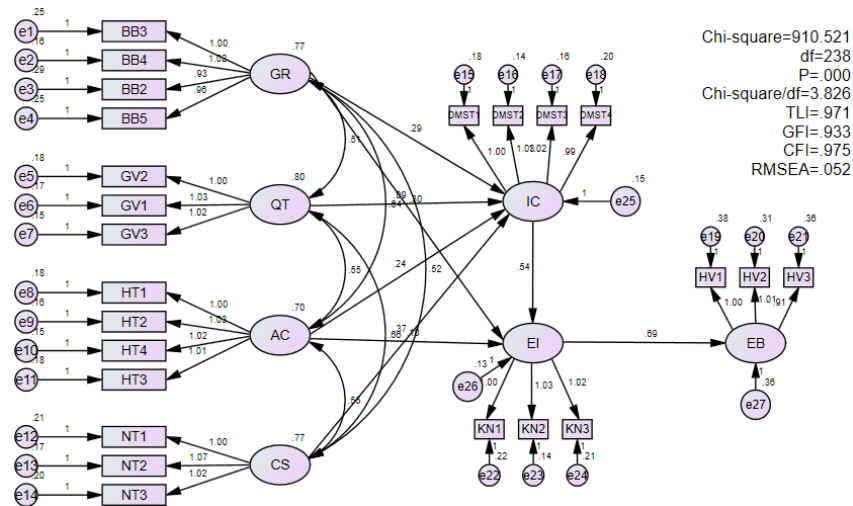


Figure 3: Results of critical structural model (SEM) testing

Table 4: Table to test the relationship between concepts in the model (Not standardized)

Impact factor	Estimate	SE	CR	P	Hypothesis
IC ← GR	0.294	0.041	7.199	***	Accept
IC ← QT	0.094	0.035	2.699	0.007	Accept
IC ← AC	0.241	0.048	5.025	***	Accept
IC ← CS	0.367	0.038	9.756	***	Accept
EI ← IC	0.544	0.036	15.189	***	Accept
EI ← AC	0.103	0.046	2.230	0.026	Accept
EI ← GR	0.299	0.042	7.089	***	Accept
EB ← EI	0.695	0.032	21.627	***	Accept

4.5 Test the reliability of estimates using Bootstrap

Bootstrap test results are considered a repeated sampling method with replacement, in which the initial sample plays the role of the crowd (Schumacker & Lomax, 2006). To test the stability of bootstrap model, we randomly resampled the initial surveillance data to create a loop of the test set of N = 1500. The results are demonstrated in Table 5. It shows that the critical ratio values |CR| are all < 1.96, given the calculated test-statistic p-value > 0.05, the deviation is very small; thus, the impact of sample size is not statistically significant at the 95% confidence level. Therefore, we can conclude that the estimated model is reliable. This is also the expected result when analyzing a linear structural model (SEM). Factors that influence students' entrepreneurial behavior are Grit (GR), Quality of teaching (QT), Absorptive capacity (AC), Cognitive of Student (CS), Competence innovation (IC), and Entrepreneurial intention (EI).

Table 5: Bootstrap test results

Parameters	SE	SE-SE	Mean	Bias	SE-Bias	CR
IC ← GR	0.052	0.003	0.294	0	0.004	0.0
IC ← QT	0.062	0.003	0.094	-0.002	0.004	-0.5
IC ← AC	0.065	0.003	0.228	-0.003	0.005	-0.6
IC ← CS	0.07	0.004	0.374	0.006	0.005	1.2
EI ← IC	0.066	0.003	0.556	0.004	0.005	0.8
EI ← AC	0.063	0.003	0.094	-0.006	0.004	-1.5
EI ← GR	0.058	0.003	0.306	0.003	0.004	0.8
EB ← EI	0.035	0.002	0.705	-0.001	0.002	-0.5

5. CONCLUSION & RECOMMENDATIONS

In the contemporary business landscape, characterized by intense competition, innovation has become a critical factor for individuals and businesses to stand out and achieve sustainable development. This capacity plays a crucial role in fostering an entrepreneurial spirit among students. Creative business ideas not only bring personal benefits but also contribute to job creation and economic growth. Students with entrepreneurial mindsets and innovative capabilities will become future business leaders, pioneering groundbreaking business strategies, and contributing to sustainable economic development.

This study identified the factors influencing students' entrepreneurial behavior and the extent of their impact. The findings reveal that, in addition to traditional factors like governmental and institutional support, innovative capacity and the ability to absorb new knowledge significantly impact students' entrepreneurial intentions. This aligns with the global trend of economies transitioning towards knowledge-based and innovation-driven models.

For the Government:

1. Develop more comprehensive policies to support startups, including:
 - Financial support: Reduce taxes, provide preferential loans, and create favorable conditions for startups to access domestic and foreign investment capital. Specifically, accelerate administrative reforms, simplify business registration and investment licensing procedures, remove legal barriers for domestic investment funds, and facilitate foreign investment in Vietnam and vice versa.
 - Build a robust startup ecosystem: Develop a national startup ecosystem encompassing business incubators, startup support centers, co-working spaces, mentoring networks, and investment connection programs to create a conducive environment for students to nurture their ideas and connect with essential resources.
 - Enhance the quality of education and training: Invest in entrepreneurship education and training programs to equip students with the necessary knowledge and skills for starting and developing businesses. Integrate entrepreneurship content into general education and higher education curricula, while promoting practical skills training activities such as business planning, financial management, marketing, and sales.
 - Promote international cooperation: Collaborate with countries possessing developed startup ecosystems to learn from their experiences, attract investment, facilitate technology transfer, and expand market access for Vietnamese startups.
2. Establish and manage startup funds to provide financial assistance for student-led startup projects, enabling them to secure initial capital for realizing their ideas. Diversify financial support mechanisms, ranging from non-refundable grants to preferential loans and venture capital.

For Universities:

1. Integrate entrepreneurship into formal curricula to equip students with relevant knowledge and skills from the outset of their academic journey. Design tailored training programs aligned with specific disciplines and fields, while enhancing practical activities and real-world experiences.
2. Organize startup idea competitions, seminars, and events to encourage student participation, facilitate the accumulation of practical experience, and foster connections with other startups, investors, and successful entrepreneurs.
3. Establish on-campus startup support centers to provide consulting services, legal assistance, and other necessary support for students during the startup phase.
4. Collaborate with businesses to create opportunities for students to engage with the industry through internships, company visits, and collaborative projects, enhancing their market understanding and providing practical experience.
5. Develop a faculty with practical entrepreneurial experience to improve teaching quality and provide effective mentorship to students.

For Students:

Students themselves are the key to successful entrepreneurship. They need to proactively cultivate their knowledge, skills, and essential entrepreneurial qualities. Specifically:

1. Actively learn and practice: Seek and participate in entrepreneurship courses, seminars, and events to enhance knowledge and skills. Actively engage in practical activities, develop projects, and test ideas to gain experience.
2. Participate in entrepreneurial activities: Engage in competitions, startup clubs, and related activities to learn from experience and build networks.
3. Seek and seize opportunities: Proactively seek and utilize internship opportunities, participate in projects, and collaborate with businesses to gain practical experience and expand knowledge.
4. Develop creative thinking and problem-solving skills: Cultivate creative thinking, problem-solving abilities, and adaptability to change, which are crucial for success in the entrepreneurial journey.
5. Cultivate perseverance and a proactive mindset: Entrepreneurship is a challenging path; students need to persevere, be proactive, and not be afraid of difficulties and setbacks.

Limitations of the Study & Future Research Directions

This study was conducted on a limited sample of students from universities in Northern Vietnam. Consequently, the findings may not fully represent the nationwide entrepreneurial behavior of students. Future research should expand the scope, collect data on a larger scale, and include diverse student populations across different regions and disciplines to gain a more comprehensive and objective perspective. Furthermore, this study primarily focused on analyzing factors influencing students' entrepreneurial intentions, without delving into subsequent stages of the entrepreneurial process, from idea generation and business planning to implementation and business development. Future research could focus on analyzing the success factors of student-led startups, the challenges they face, and propose more effective support solutions.

This study has contributed to a clearer understanding of the relationship between innovative capacity, knowledge absorption, and entrepreneurial intentions among students. The findings provide empirical evidence that investing in the development of innovative capacity and knowledge absorption is a crucial solution for promoting entrepreneurship among students, contributing to the development of a high-quality workforce for the economy.

REFERENCES

- Ajzen, I. (1991). The theory of planned behaviour. *Organizational Behaviour 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)
- Ajzen, I., & Fishbein, M. (1975). Attitude-behavior relations: A theoretical analysis and review of empirical research. *Psychological Bulletin*, 84(5), 888-918. <https://doi.org/10.1037/0033-2909.84.5.888>
- Bashant, J. (2014). Developing Grit in Our Students: Why Grit Is Such a Desirable Trait, and Practical Strategies for Teachers and Schools. *Journal for Leadership and Instruction*, 13(2), 14-17.
- Bruton, D. (2011). Learning creativity and design for innovation. *International Journal of Technology and Design Education*, 21, 321-333.
- Cohen, M. W., & Levinthal, D. A. (1990). Absorptive capacity: A new perspective on learning and innovation. *Administrative Science Quarterly*, 35, 128-152. <https://doi.org/10.2307/2393553>
- Corno, L., & Mandinach, E. B. (1983). The role of cognitive engagement in classroom learning and motivation. *Educational Psychologist*, 18(2), 88-108.
- Duckworth, A. L., & Quinn, P. D. (2009). Development and Validation of the Short Grit Scale (Grit-S). *Journal of Personality Assessment*, 91(2), 166-174. <https://doi.org/10.1080/00223890802634290>
- Duckworth, A. L., Peterson, C., Matthews, M. D., & Kelly, D. R. (2007). Grit: perseverance and passion for long-term goals. *Journal of Personality and Social Psychology*, 92(6), 1087-1101.
- Finn, J. D. (1989). Withdrawing from school. *Review of Educational Research*, 59(2), 117-142.
- Goldberg, L. R. (1990). An alternative "description of personality": the big-five factor structure. *Journal of Personality and Social Psychology*, 59(6), 1216-1229.
- Goldberg, L. R. (2001). An Alternative "Description of Personality": The Big-Five Factor Structure. In *Personality and Personality Disorders* (p. 14). Routledge.
- Han, S., Yin, S., & Liu, L. (2024). Analysis of the importance of business model and business plan in the process of entrepreneurship: Taking college students entrepreneurship as an example. *Sustainable Economies*, 2(3).
- Hero, L.-M., Lindfors, E., & Taatila, V. (2017). Individual Innovation Competence: A Systematic Review and Future Research Agenda. *International Journal of Higher Education*, 6(5), 103-121.
- Hu, L., & Bentler, P. (1999). Cutoff criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives. *Structural Equation Modeling*, 6(1), 1-55. <https://doi.org/10.1080/10705519909540118>
- Kalyar, M. N. (2011). Creativity, Self-Leadership And Individual Innovation. *The Journal of Commerce*, 3(3), 20-28.
- Keinänen, M., Ursin, J., & Nissinen, K. (2018, September). How to measure students' innovation competences in higher education: Evaluation of an assessment tool in authentic learning environments. *Studies in Educational Evaluation*, 58, 30-36. <https://doi.org/10.1016/j.stueduc.2018.05.007>
- Lamborn, S. N. (1992). The significance and sources of student engagement. . *Student Engagement and Achievement in American Secondary Schools*. NY: Teachers College Press, 11-39.
- Lane, P., Koka, B., & Pathak, S. (2006). The Reification of Absorptive Capacity: A Critical Review and Rejuvenation of the Construct. *Academy of Management*, 31(4). <https://doi.org/10.5465/amr.2006.22527456>
- Liñán, F., Rodríguez-Cohard, J. C., & Rueda-Cantuche, J. M. (2011). Factors affecting entrepreneurial intention levels: a role for education. *International Entrepreneurship and Management Journal*, 7, 195-218. <https://doi.org/10.1007/s11365-010-0154-z>
- Luthans, K. W., Luthans, B. C., & Chaffin, T. D. (2019). Refining Grit in Academic Performance: The Mediatonal Role of Psychological Capital. *Journal of Management Education*, 43(1). <https://doi.org/10.1177/1052562918804282>
- Matejun, M. (2017). Development of students' innovative competences in the academic environment: determinants and career paths, People. *International Journal of Social Sciences*, 3(2), 2191-2209.
- McCrae, R. R., & Costa, P. T. (1987). Validation of the five-factor model of personality across instruments and observers. *Journal of Personality and Social Psychology*, 52(1), 81-90. <https://doi.org/10.1037/0022-3514.52.1.81>
- Meiju, M. K., & Liisa, K. M. (2019). Researching learning environments and students' innovation competences. *Education + Training*, 61(1), 17-30.
- Nguyen, T. D. (2017). Knowledge transfer from business schools to business organizations: the roles absorptive capacity, learning motivation, acquire knowledge and job autonomy. *Journal of Knowledge Management*, 21(5), 1240-1253.
- Peschl, M. F., Bottaro, G., Hartner-Tiefenthaler, M., & Rötzer, K. (2014). Learning how to innovate as a socio-epistemological process of co-creation. Towards a constructivist teaching strategy for innovation. *Constructivist Foundation*, 3(9), 421-433.
- Randall, D., & Wolff, J. A. (1994). The time interval in the intention-behaviour relationship: Metaanalysis. *British Journal of Social Psychology*, 33(4), 405-418.

- Schlaegel, C., & Koenig, M. (2014). Determinants of Entrepreneurial Intent: A Meta-Analytic Test and Integration of Competing Models. *Entrepreneurship Theory and Practice*, 38(2), 291–332.
- Schumacker, R. E., & Lomax, R. G. (2006). Application of structural equation modeling in educational research and practice.
- Shane, S., & Venkataraman, S. (2000). The Promise of Entrepreneurship as a Field of Research. *Academy of Management Review*, 25(1), 217-226.
- Taylor, S., Sharland, A., Cronin, J., & Bullard, W. (1993). Recreational Service Quality in the International Setting. *International Journal of Service Industry Management*, 4, 68-86.
- Tupes, E. C., & Christal, R. E. (1992, June). Recurrent Personality Factors Based on Trait Ratings. *Journal of Personality*, 60(2), 225-251. <https://doi.org/10.1111/j.1467-6494.1992.tb00973.x>
- Vila, L. E., Pedro, P. J., & Francisco, M. G. (2012). Higher education and the development of competencies for innovation in the workplace. *Management Decision*, 50(9), 1634-1648. <https://doi.org/10.1108/00251741211266723>
- Voelkl, K. E. (1996). Measuring students' identification with school. *Educational and Psychological Measurement*, 56(5), , 760-770.