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A Quantitative Approach Assessing Students' Attitude Towards Entrepreneurship and Entrepreneurial Intentions in a Private University in Zhanjiang, China

Xiushui Lin*

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Abstract

Purpose: This study proposes hypothetical relationships among variables through previous theories and literature to investigate the factors impacting attitudes towards entrepreneurship and entrepreneurial intentions of students in a private university in Zhanjiang, China. The research model includes perceived behavioral control, proactive personality, entrepreneurship education, subjective norms, attitudes toward entrepreneurship, and entrepreneurial intentions. **Research design, data, and methodology:** This study employed quantitative analysis to obtain data by distributing survey questionnaires to the target population. The Item-Objective Consistency Index and pilot testing were conducted before large-scale data collection. The sampling procedures involve purposive, stratified random and convenience sampling. Subsequently, Confirmatory Factor Analysis and Structural Equation Modeling were used to analyze the data and test the proposed research hypotheses. **Results:** It indicates that perceived behavioral control, proactive personality, and attitudes towards entrepreneurship significantly impact entrepreneurial intentions among university students. Entrepreneurship education and subjective norms significantly influenced attitudes toward entrepreneurship and indirectly influenced entrepreneurial intentions. **Conclusions:** The empirical data significantly supported five of the six hypotheses proposed to fulfill research objectives. Therefore, the stakeholder should attach great importance to these factors and focus on students in formulating policies, providing financial support and subsidies, and offering courses, thus enhancing students' motivation and initiative in participating in entrepreneurial activities.

Keywords : Attitude, Entrepreneurship, Entrepreneurial Intentions, University Student, China

JEL Classification Code: E44, F31, F37, G15

1. Introduction

Entrepreneurship has garnered substantial scholarly attention in recent decades (Jiatong et al., 2021). It is not a recent concept and can be traced back to Cantillon (1931), who first used the phrase in the 17th century (Gubik, 2021). Existing definitions of entrepreneurship include functional roles, such as coordination, innovation, uncertainty taking, capital provision, decision-making, ownership, and resource allocation. Risk-taking, innovativeness, and opportunism are three of entrepreneurs' most cited roles. Entrepreneurship is a resource for innovation and change, contributing to productivity and economic competitiveness, and is closely related to economic growth (Sanyang & Huang, 2009). Entrepreneurship drives national and regional economic growth, industrial upgrading, and structural transformation while generating employment and advancing social progress (L. Wu et al., 2022). After studying the link between entrepreneurship and the economic growth of the BRICS countries, Rani and Kumar (2021) found that entrepreneurial activities have a positive and important impact on economic growth, so that entrepreneurial activities can be an engine of economic growth. Hence, governments of various countries

1*Xiushui Lin, Zhanjiang University of Science and Technology, China. Email: 653017786@qq.com

regard entrepreneurship as a priority and establish an entrepreneurial ecosystem through policy, finance, education, and atmosphere (Lu et al., 2021). China has experienced remarkable economic growth over the past three decades, largely due to entrepreneurship (Liu et al., 2020). To accelerate innovation and entrepreneurship, China's spending on research and development (R&D) has risen from just 0.56% of GDP in 1996 (APAC, 2020) to 2.55% or 30,900 by 2022 billion (Zhang, n.d.). According to the Global Innovation Index (GII) report, China has made significant progress in innovation in recent years, improving its ranking from 14th in 2019 to 11th in 2022 out of 132 economies (Global et al.). Over four decades, it has grown from a small exporting country of resource- and labor-intensive products to a globally important manufacturing exporter (Li et al., 2019). Its share of global manufacturing has grown significantly from about 20 percent to about 30 percent (Global manufacturing output, 2021). Small and midsize enterprises largely lead this growth, and entrepreneurship is the driving force (Millman et al., 2010). To sustain GDP growth of 5.5% to 6.5% annually over the next decade, China must derive 2% to 3% directly from innovation and new ventures (Ahlstrom et al., 2018).

China has recognized entrepreneurship as a driving force for sustained economic development and has encouraged and promoted entrepreneurship (He et al., 2018). 2014, the government proposed the "Mass Entrepreneurship and Innovation" plan (Ahlstrom et al., 2018). As part of this plan, all universities have been required to increase resources to support student entrepreneurship since 2015, and undergraduate students are mandated to complete an entrepreneurship education course (Wright et al., 2021). Under the current economic environment and policies, college students have become the new main body of entrepreneurship (Jin et al., 2023). Since 2015, China has organized the "Internet +" College Students Innovation and Entrepreneurship Competition (Li et al., 2022) to foster college students' passion for innovation and entrepreneurship and facilitate the realization of their ideas and projects. In 2021, the competition witnessed over 9.56 million students in 4,347 institutes of higher education from 117 nations and regions participating in 2.28 million projects (Zong, n.d.). In addition, as of September 2021, colleges and universities nationwide have offered over 11,000 online open courses and more than 30,000 innovation and entrepreneurship education courses. Furthermore, they have engaged the services of 174,000 business executives as instructors for innovation and entrepreneurship courses (Stimulate more college students' innovation and entrepreneurship, 2021). Chinese higher education institutions also actively promote and facilitate student entrepreneurship by implementing entrepreneurship education practices, providing entrepreneurship funds and services, and establishing entrepreneurship centers and incubation bases (You et al., 2017).

Undoubtedly, the general environment in China is favorable for university students to set up businesses, but the situation could be more optimistic (Yao et al., 2016). According to the 2018 Global Undergraduate Entrepreneurship Survey (GUESSS), which surveyed over 208,000 college students in 54 countries, including China, only 17.3% of Chinese students expressed entrepreneurial intentions, ranking third from the bottom among the surveyed countries (GUESSS News, 2021).. Therefore, further research is warranted to investigate the factors influencing college students' entrepreneurship in the Chinese context. Research has indicated that entrepreneurial intention is the best predictor of entrepreneurship behavior. Thus, entrepreneurial intention and its determinants have received increasing attention from researchers (Lu et al., 2021). This study focuses on students' entrepreneurial intentions at Zhanjiang University of Science and Technology (ZUST), a private university in China. The school proposes to incorporate the goal of building an entrepreneurial university into the entire field of running a school. Through a literature review, this study builds on existing theories to construct a new comprehensive research model to explore the key factors that influence students' entrepreneurial attitudes and intentions. The study findings are crucial for developing and implementing effective strategies to motivate these factors. In addition, this study also contributes to existing literature by offering entrepreneurship educators and policymakers a reference for fostering entrepreneurship at the university level (Karimi et al., 2014). Therefore, the objective of this research is to investigate the factors impacting attitudes towards entrepreneurship and entrepreneurial intentions of students in a private university in Zhanjiang.

2. Literature Review

2.1 Entrepreneurial Intention

Bird and Jelinek (1989) defined entrepreneurial intention as the conscious choice of an entrepreneur to start a business as a career choice and to create or add value by organizing resources. Creating a new business is first establishing entrepreneurial intentions (De Clercq et al., 2013). Thus, to guide and encourage university students to entrepreneurship, it is first necessary to help them form entrepreneurial intentions (Si et al., 2022). Through practice, the Theory of Planned Behavior (TPB) is well suited as a model for studying intention and applied to research entrepreneurship from the field of psychology (Mykolenko et al., 2021).

However, Karimi et al. (2014) found in other scholars' empirical studies and meta-analysis results on TPB that three

antecedents of subjective norms, attitudes toward entrepreneurship, and perceived behavioral control explained 30-50 percent of intention variance. This implies that roughly more than half of the intention variation remains unexplained. As a result, some scholars have proposed adding additional variables to TPB to improve its predictive and explanatory power for intentions (Liñán et al., 2011). In the current entrepreneurship research, factors such as entrepreneurial education and proactive personality are widely incorporated into TPB. At the same time, it has been demonstrated by empirical studies that these variables improve the explanatory power of TPB for entrepreneurial intentions to varying degrees (Duong, 2021).

2.2 Entrepreneurship Education

Entrepreneurship education aims to cultivate students' entrepreneurial quality and ability and ensure they have the knowledge, ability, and psychological quality required to engage in entrepreneurship (Liu et al., 2022). Through it, students can learn the personality traits, abilities, and skills needed by entrepreneurs (X. Liu et al., 2019). This also increases their interest in entrepreneurship and encourages them to consider it a career choice (Shah et al., 2020). Entrepreneurship education enhances the desire to start a business and greatly influences people's attitudes toward entrepreneurship (Ng et al., 2021). A study by Ayuni (2018) found that entrepreneurship education does not affect entrepreneurial intentions but significantly influences students' entrepreneurial attitudes. Through entrepreneurship education, students acquire entrepreneurial knowledge, enhance confidence, and positively impact entrepreneurship's feasibility (Aboobaker & Renjini, 2020). Studies have shown that entrepreneurship education can significantly improve students' entrepreneurial attitudes. By shaping students' attitudes toward entrepreneurship, entrepreneurship education indirectly influences their entrepreneurial intentions (Ng et al., 2021). In summary, it is crucial to foster students' positive attitudes toward entrepreneurship (Otache et al., 2021). Thus, a hypothesis is proposed as follows:

H1: Entrepreneurship education has a significant impact on attitude towards entrepreneurship.

2.3 Subjective Norms

The term "subjective norm" describes the perception of social pressure from friends, family, and other influential people that affects the choice of a particular behavior (Ajzen, 1991). This means how friends, family, or coworkers view a particular behavior will affect a person's perception (Mwiya et al., 2017). The study indicates that subjective norms have a minimal impact among the three TPB antecedents influencing intention. However, significant others can influence entrepreneurial attitudes by transmitting favorable values related to entrepreneurship, leading to positive evaluations (Trivedi, 2016). College students often face expectations of their behavior and attitudes from family, friends, and teachers, especially when making decisions such as engaging in entrepreneurial activities. A lack of support from these important social relationships can negatively impact entrepreneurship (Mensah et al., 2021). Research has found that subjective norms influence individuals' evaluations of entrepreneurship, affecting their attitudes toward entrepreneurship (Liñán & Chen, 2009). When individuals perceive higher expectations and support from significant others in their surroundings, they tend to hold more positive attitudes toward entrepreneurship. In other words, subjective norms positively influence attitudes toward entrepreneurship (Duong, 2021). Therefore, below hypotheses are proposed:

H2: Subjective norms have a significant impact on attitude towards entrepreneurship.

H3: Subjective norms have a significant impact on entrepreneurial intentions.

2.4 Attitude Towards Entrepreneurship

An individual's attitude refers to their positive or negative evaluation of a particular behavior. Within the realm of entrepreneurship, if individuals hold a positive value assessment of entrepreneurship, they are likely to consider following this behavior (Bazkiaei et al., 2021). In other words, positive expectations of higher financial returns, independence, and autonomy lead to favorable perceptions of entrepreneurship. Conversely, negative expectations of outcomes can inhibit entrepreneurial enthusiasm (Lu et al., 2021). Entrepreneurship is a set of attributes and psychological traits cultivated through formal education and environmental influence. These elements shape entrepreneurial attitudes, ultimately leading to entrepreneurial behavior (Dixit et al., 2022). Duong (2021) stressed that subjective norms and entrepreneurship education significantly affected intentions through entrepreneurial attitudes. Kumar and Shukla (2022) found that attitude toward entrepreneurship was the most important determinant of entrepreneurial intention among the three intention predictors of TPB. This suggests that people with a positive attitude towards entrepreneurship tend to see entrepreneurship as a viable option. Therefore, they are more likely to develop entrepreneurial intentions and engage in entrepreneurial activities (Bazkiaei et al., 2021). Previous research has shown that attitudes towards entrepreneurship directly and significantly affect entrepreneurial intentions (Vamvaka et al., 2020). H4 is therefore proposed:

H4: Attitude towards entrepreneurship has a significant impact on entrepreneurial intentions.

2.5 Perceived Behavioral Control

Perceived behavioral control refers to an individual's perception of the difficulty or ease of carrying out a particular behavior (Ajzen, 1991). Simply put, people are likely to perform a task if perceived as easy, a phenomenon known as perceived behavioral control (Farooq, 2018). This concept comprises two components: the first component is facilitation, which pertains to the availability of resources required for behavior implementation; the second component is self-efficacy, which denotes the individual's level of confidence in successfully performing the behavior (Trivedi, 2016). In other words, the availability of resources is critical to people's eventual decisions, intentions, and actions. The more resources people perceive they have, the higher their sense of control over their behavior, positively influencing intentions and subsequent behavior (Bustamante et al., 2020). Individuals with a high level of perceived behavioral control are more likely to judge themselves as capable of organizing and executing an entrepreneurial project (Lim & Duang-Ek-Anong, 2021). Because of their confidence in their ability, they are more motivated to try to start a business and are likely to strive to be able to accomplish this goal (Adu et al., 2020). As mentioned above, the more convinced people are that they have the resources and capabilities to start and manage a business, the greater their entrepreneurial intention (Bustamante et al., 2020). Thus, H5 is proposed:
H5: Perceived behavioral control has a significant impact on entrepreneurial intentions.

2.6 Proactive Personality

A proactive personality means individuals have a proactive behavior tendency, can actively seek opportunities, take action, and persevere in promoting environmental changes (Bateman & Crant, 1993). Proactive action entails actively initiating change rather than passively awaiting it. It encompasses responding flexibly to future uncertainties and actively driving business advancement (Prabhu et al., 2012). A proactive personality affects how business owners seek opportunities and strategic orientation and is more conducive to self-employment (Kumar & Shukla, 2022). One key distinction between entrepreneurs and regular employees is their knack for identifying business opportunities. Entrepreneurs possess an inherent proactivity that enables them to recognize potential opportunities and exhibit a strong inclination to start a business when the market conditions are favorable and ample opportunities exist (Elali & Al-Yacoub, 2016). Compared with all other personality traits, a proactive personality was the most important factor influencing an individual's entrepreneurship. Numerous studies have shown a close positive relationship between proactive personality and entrepreneurial intention (Sidratulmunthah et al., 2018). Therefore, H6 is proposed:
H6: Proactive personality has a significant impact on entrepreneurial intentions.

3. Research Methods and Materials

3.1 Research Framework

This paper proposes a conceptual framework based on the Theory of Planned Behavior (TPB). TPB is an extension of the Theory of Reasoned Action (TRA) that links intentions and behaviors under conditions of behavioral control. It suggests that an individual's intention to perform a behavior is determined by their attitude towards the behavior, subjective norms, and perceived behavioral control (Acheampong & Tweneboah-Koduah, 2017). The TPB has been used extensively in entrepreneurship as a reliable and effective theoretical framework for studying students' entrepreneurial intentions (Choukir et al., 2019).

Additionally, four previous studies' theoretical frameworks have been incorporated into this study. First, based on Ng et al. (2021), the influence of entrepreneurship education on a person's attitude towards entrepreneurship, which subsequently influences entrepreneurial intentions, is examined. Second, proposed by Munir et al. (2019), explores the significance of proactive personality as an influencing factor for entrepreneurial intention. Third, introduced by Duong (2021), investigates the direct influence of subjective norms on entrepreneurial intentions and their indirect influence through entrepreneurial attitudes. Lastly, Karimi et al. (2014) explore the positive relationship between perceived behavioral control and entrepreneurial intention. The conceptual framework is illustrated in Figure 1.

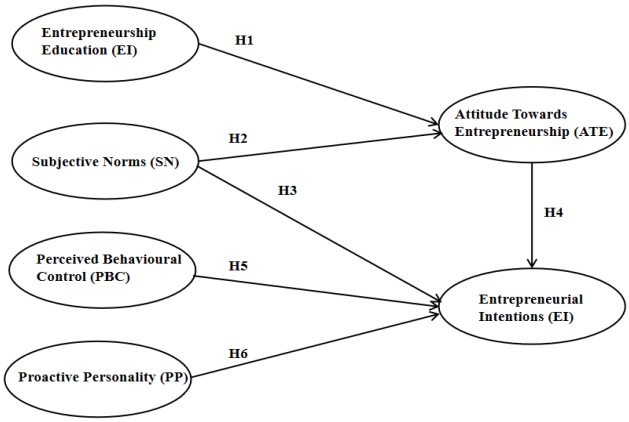

Figure 1: Conceptual Framework

H1: Entrepreneurship education has a significant impact on attitude towards entrepreneurship.
H2: Subjective norms have a significant impact on attitude towards entrepreneurship.
H3: Subjective norms have a significant impact on entrepreneurial intentions.
H4: Attitude towards entrepreneurship has a significant impact on entrepreneurial intentions.
H5: Perceived behavioral control has a significant impact on entrepreneurial intentions.
H6: Proactive personality has a significant impact on entrepreneurial intentions.

3.2 Research Methodology

A quantitative research method is used in this study, and data is collected through an online questionnaire on the WeChat Questionnaire Star platform. The instrument consisted of three components: screening questions, items for the scales of the six variables, and demographic questions. The scale items are rated on a 5-point Likert scale, ranging from 1 (strongly disagree) to 5 (strongly agree).

Before distributing the large-scale questionnaire, the researchers asked three experts to conduct an item-objective consistency (IOC) test to evaluate content validity. In addition, a pilot test was carried out by distributing questionnaires to 30 target populations to measure reliability. The IOC results surpassed the 0.6 threshold and were therefore excluded from subsequent analysis. To assess reliability, Cronbach's Alpha method was applied in the pilot test involving a sample size of 30. An acceptable threshold was set at Cronbach's alpha values exceeding 0.7, following the criteria established by Nunnally and Bernstein in 1994.

After confirming reliability and content validity, questionnaires were distributed to the target population, and 450 valid responses were collected. Statistics packages SPSS and AMOS were used to analyze the data collected. Analyses included CFA (Confirmatory Factor Analysis) and SEM (Structural Equation Model) to evaluate each construct's convergent and discriminant validity and test the significance of the relationships among the constructs.

3.3 Population and Sample Size

According to Duong (2021), students majoring in economics and management show stronger entrepreneurial intentions after acquiring knowledge and skills related to business and entrepreneurship. Therefore, the target population for this study is 8,019 undergraduates from three colleges that have mainly economics and business management majors of ZUST, and they have taken at least one of the compulsory courses relating to entrepreneurship offered by the university.

The minimum sample size was determined using the statistical software developed by Soper (2022), considering the expected effect size (0.2), the desired level of statistical power (0.8), the number of latent variables (6), the number of observed variables (27), and the probability scale (0.05). Consequently, the recommended sample size was 403. A total of 450 samples will be collected to ensure statistically robust results, drawing from previous research.

3.4 Sampling Technique

A multi-stage sampling technique was used to determine the sample's scope and draw the sample, including judgment sampling, stratified random sampling, and convenience sampling. The first stage, judgment sampling, was used to select three second-level colleges of ZUST, which focus on economics and management. In contrast, in the second stage, stratified random sampling was used to determine the sample size of each college or sample stratum, as shown in Table 1. Convenience sampling was employed to distribute online survey.

Table 1: Sample Units and Sample Size

College Name	Population Size	Proportional Sample Size
School of Accounting	2747	154
School of Economics and Finance	2419	136
School of Management	2853	160
Total	**8019**	**450**

Source: Constructed by author

4. Results and Discussion

4.1 Demographic Information

In Table 2, the demographic features of the 450 target respondents are shown in Table 2. Of these, 108 (24%) were male and 342 (76%) were female. Regarding year of attendance, 57.8 percent were sophomores, 23.5 percent were juniors, and 18.7 percent were seniors.

Table 2: Demographic Profile

Demographic and General Data (N=450)		Frequency	Percentage
Gender	Male	108	24%
	Female	342	76%
Student Year	Sophomore	260	57.8%
	Junior	106	23.5%
	Senior	84	18.7%

Source: Constructed by author

4.2 Confirmatory Factor Analysis (CFA)

CFA, or Confirmatory Factor Analysis, is a measurement model that helps validate the relationships among observed and unobserved variables, ensuring discriminant and convergent validity (Jöreskog, 1969). Convergent validity can be assessed using statistical measures such as Cronbach's Alpha, factor loading, average variance extracted (AVE), and composite reliability (CR) (Fornell & Larcker, 1981). A value of factor loading greater than 0.50 is commonly recommended (Hair et al., 1998), while a composite reliability (CR) value of 0.6 or greater is deemed acceptable (Hair et al., 2017). Additionally, an average variance extracted (AVE) value of 0.4 or higher is suggested (Fornell & Larcker, 1981), while Cronbach's alpha value higher than 0.7 is acceptable (Santos, 1999). Table 3 indicates that all factor loading, AVE, and CR values surpassed the critical thresholds. This confirms the convergent validity of the measurement model. Furthermore, all values of Cronbach's alpha exceeded 0.7, confirming the internal consistency of the items (Nunnally & Bernstein, 1994).

Table 3: Confirmatory Factor Analysis Result, Composite Reliability (CR) and Average Variance Extracted (AVE)

Variables	Source of Questionnaire (Measurement Indicator)	No. of Item	Cronbach's Alpha	Factors Loading	CR	AVE
Entrepreneurship Education (EE)	Duong (2021)	5	0.949	0.860-0.912	0.949	0.788
Subjective Norms (SN)	Ng et al. (2021)	3	0.916	0.866-0.911	0.916	0.784
Perceived Behavioral Control (PBC)	Ng et al. (2021)	6	0.927	0.791-0.874	0.928	0.684
Proactive Personality (PP)	Munir et al. (2019)	4	0.843	0.639-0.841	0.844	0.578
Attitudes Towards Entrepreneurship (ATE)	Ng et al. (2021)	4	0.887	0.727-0.865	0.889	0.669
Entrepreneurial Intention (EI)	Duong (2021)	5	0.915	0.774-0.886	0.917	0.689

The goodness of fit indicators is presented in Table 4. Various indices were used to evaluate the measurement model, including CMIN/DF, GFI, AGFI, NFI, CFI, TLI, and RMSEA. These indicators' statistical values exceeded the threshold values, indicating a good fit of the measurement model.

Table 4: Goodness of Fit for Measurement Model

Fit Index	Acceptable Criteria	Statistical Values
CMIN/ DF	< 5.00 (Al-Mamary & Shamsuddin, 2015)	2.891
GFI	≥ 0.85 (Sica & Ghisi, 2007)	0.868
AGFI	≥ 0.80 (Sica & Ghisi, 2007)	0.839
NFI	≥ 0.80 (Wu & Wang, 2006)	0.913
CFI	≥ 0.80 (Bentler, 1990)	0.941
TLI	≥ 0.80 (Sharma et al., 2005)	0.933
RMSEA	< 0.08 (Pedroso et al., 2016)	0.065
Model Summary		**In harmony with empirical data**

Remark: CMIN/DF = The ratio of the chi-square value to degree of freedom, GFI = Goodness-of-fit index, AGFI = Adjusted goodness-of-fit index, NFI = Normed fit index, CFI = Comparative fit index, TLI = Tucker-Lewis index, and RMSEA = Root mean square error of approximation.

Before conducting a research hypothesis test, it is important to ensure discriminant validity, which can be achieved using the Fornell-Lacker criteria. This criterion compares the square root of the AVE with the correlations between latent constructs. The square root of the AVE of each construct should be greater than the correlations with other latent constructs (Hamid et al., 2017). The square root of the AVE for each construct exceeded the inner construct correlations, confirming discriminant validity, as shown in Table 5.

Table 5: Discriminant Validity

	EE	ATE	SN	PBC	PP	EI
EE	**0.888**					
ATE	0.451	**0.818**				
SN	0.444	0.708	**0.885**			
PBC	0.276	0.425	0.551	**0.827**		
PP	0.268	0.377	0.400	0.477	**0.761**	
EI	0.193	0.439	0.472	0.574	0.547	**0.834**

Note: The diagonally listed value is the AVE square roots of the variables
Source: Created by the author.

4.3 Structural Equation Model (SEM)

SEM is a statistical method used to study the relationship between several variables, with measures including model fit and the effect of one variable on another (Dragan & Topolšek, 2014). The model's fit is shown in Table 6, in which the SEM statistical index values are compared with the acceptability criteria, and all values of the indices are within the admissibility criteria, thus confirming the fitness of the structural model.

Table 6: Goodness of Fit for Structural Model

Index	Acceptable	Statistical Values
CMIN/DF	< 5.00 (Al-Mamary & Shamsuddin, 2015)	3.317
GFI	≥ 0.85 (Sica & Ghisi, 2007)	0.851
AGFI	≥ 0.80 (Sica & Ghisi, 2007)	0.815
NFI	≥ 0.80 (Wu & Wang, 2006)	0.901
CFI	≥ 0.80 (Bentler, 1990)	0.928
TLI	≥ 0.80 (Sharma et al., 2005)	0.918
RMSEA	< 0.08 (Pedroso et al., 2016)	0.072

Index	Acceptable	Statistical Values
Model Summary		In harmony with Empirical data

Remark: CMIN/DF = The ratio of the chi-square value to degree of freedom, GFI = Goodness-of-fit index, AGFI = Adjusted goodness-of-fit index, NFI = Normed fit index, CFI = Comparative fit index, TLI = Tucker-Lewis index, and RMSEA = Root mean square error of approximation.

4.4 Research Hypothesis Testing Result

Regression weights were applied to assess the significance of causal relationships among variables (Fornell & Larcker, 1981). The results indicate that the obtained R^2 values were 0.590 (ATE) and 0.341 (EI), exceeding the minimum threshold of 0.1 (Ozili, 2022). All the proposed hypotheses were supported except H3. Subjective norms were the strongest predictor of entrepreneurial attitudes, followed by entrepreneurship education. In addition, a proactive personality was the factor that most influenced entrepreneurial intentions, followed by perceived behavioral control. Table 7 show the causal relationships between the variables.

Table 7: Hypothesis Results of the Structural Equation Modeling

Hypothesis	(β)	t-Value	Result
H1: EE→ATE	0.190	4.956*	Supported
H2: SN→ATE	0.744	13.731*	Supported
H3: SN→EI	-0.061	-0.855	Not Supported
H4: ATE→EI	0.261	3.458*	Supported
H5: PBC→EI	0.355	7.683*	Supported
H6: PP→EI	0.408	7.793*	Supported

Note: *** p<0.001, ** p<0.01, * p<0.05
Source: Created by the author

H1: Entrepreneurship education positively affects the attitude towards entrepreneurship with a standardized path coefficient of 0.190 and a t-value of 4.956. Thus, entrepreneurship education has significantly impacted students, fostering a strong positive attitude toward entrepreneurship. This largely supports the idea that entrepreneurship education has the potential to influence and shape students' entrepreneurial attitudes (Otache et al., 2021). This finding aligns with a previous study conducted by Ayuni (2018), Duong (2021), Ng et al. (2021), and Otache et al. (2021).

H2: The standardized path coefficient between subjective norms and attitude towards entrepreneurship is 0.744, with a t-value of 13.731. Hence, the hypothesis is supported. The findings suggest that the influence of 'significant others' leads to more favorable perceptions and attitudes towards entrepreneurship, in line with the work of Choukir et al. (2019), Meeralam and Adeinat (2021), Trivedi (2016), Bazkiaei et al. (2021) and Duong (2021).

H3: The standardized path coefficient between subjective norms and entrepreneurial intentions is -0.061, with a t-value of -0.855. Therefore, subjective norms had no significant effect on entrepreneurial intentions, and this hypothesis is not supported. The agreement or support of friends, family, and people in the environment did not influence the entrepreneurial intention of the participant. This is consistent with several previous studies conducted by Alshagawi and Ghaleb (2022) and Duong (2021), Otache et al. (2021). However, it needs to be consistent with other studies conducted by Karimi et al. (2014), Bazkiaei et al. (2021), and Shah et al. (2020).

H4: The hypothesis is supported, with a standardized path coefficient of 0.261 and a t-value of 3.458. Thus, a statistically significant positive correlation exists between attitudes toward entrepreneurship and entrepreneurial intentions, suggesting that a strong positive attitude strengthens an individual's entrepreneurial intentions (Alkhalaf et al., 2022). This is in line with the research conducted by Alkhalaf et al. (2022), Bazkiaei et al. (2021), Duong (2021), Trivedi (2016) and Zampetakis et al. (2009). Additionally, attitudes are also found to moderate the relationship between external influences and entrepreneurial intentions (Alkhalaf et al., 2022). In this study, entrepreneurship education and subjective norms variables influence entrepreneurial intention through the mediating factor of attitude towards entrepreneurship.

H5: The hypothesis is supported, with a standardized path coefficient of 0.355 and a t-value of 7.683, indicating a significantly and positively correlated relationship between perceived behavioral control and entrepreneurial intentions. This indicates that having strong self-efficacy related to entrepreneurial intentions is advantageous for individuals pursuing entrepreneurship (Ng et al., 2021). It is in line with the findings of Aga (2023), Bazkiaei et al. (2021), Choukir et al. (2019), Galvão et al. (2018), and Ng et al. (2021).

H6: The hypothesis is supported, with a standardized path coefficient of 0.408 and a t-value of 7.793, which is consistent with the findings of Munir et al. (2019), Mustafa et al. (2016), Prabhu et al. (2012), Sidratulmunthah et al. (2018) as well as Zampetakis et al. (2009). Proactive students are more likely to spot opportunities and act to change the world around them. This proactive mindset enhances their responsiveness and adaptability to environmental opportunities, making them more likely to pursue an entrepreneurial career (Mustafa et al., 2016).

5. Conclusion and Recommendation

5.1 Conclusion and Discussion

Against the backdrop of entrepreneurship fueling global economic prosperity, particularly contributing to China's rapid economic development, and the government's strong emphasis on innovation and entrepreneurship among university students, entrepreneurial intentions remain low among the nation's university students. To this end, the researcher developed a comprehensive framework of six hypotheses for the defined research question, examining whether entrepreneurship education, subjective norms, perceived behavioral control, proactive personality, and attitudes towards entrepreneurship would directly or indirectly impact entrepreneurial intentions. Factors in the study were drawn from two core theories, TRA and TPB, and four theoretical frameworks from previous research. By reviewing the literature, the researcher clearly defined and reasonably explained all the variables and hypothesized the relationships between the variables.

The study targeted students from economics and management programs at ZUST who had completed a mandatory entrepreneurship course. Multi-stage sampling was employed, and quantitative data were collected using a questionnaire. The questionnaire utilized a closed-ended five-point Likert scale. To ensure the reliability and consistency of the measurement items, item-objective congruence (IOC) was conducted by three experts, followed by pilot testing with a small sample of 30 respondents before the main data collection. The total sample size for the study was 450 respondents, who were reached through an online questionnaire distribution via the WeChat Questionnaire Star platform. CFA and SEM analyses were conducted on the collected data to verify the constructs' reliability and validity, ensure model fit, test the hypotheses proposed, and answer the research questions posed. Five of the six hypotheses formulated in this study were supported and confirmed, and the research objectives were successfully achieved. The study can be summarised into the following two main conclusions.

Firstly, entrepreneurship education significantly influences entrepreneurial attitudes (Ayuni, 2018; Duong, 2021), and subjective norms significantly influence entrepreneurial attitudes (Choukir et al., 2019; Meeralam & Adeinat, 2021), and they indirectly influence entrepreneurial intention. Duong (2021) argues that entrepreneurship education and subjective norms play a key role in shaping attitudes and thus enhancing entrepreneurial intention.

Secondly, a proactive personality was found to have the greatest impact on entrepreneurial intention, consistent with previous studies' outcomes (Munir et al., 2019; Mustafa et al., 2016). Furthermore, the research confirmed the positive influence of perceived behavioral control on entrepreneurial intention, which aligns with previous works' results (Choukir et al., 2019; Galvão et al., 2018). Also, the outcome is consistent with previous studies (Duong, 2021; Trivedi, 2016), which found that attitudes towards entrepreneurship strongly influence entrepreneurial intentions. This study is also consistent with the findings of Alshagawi and Ghaleb (2022) and Duong (2021), who found that subjective norms do not have a significant impact on entrepreneurial intentions, but this does not line up with other studies conducted by Karimi et al. (2014), Bazkiaei et al. (2021) and Shah et al. (2020).

The final part of the article provides a comprehensive summary of the study and several important recommendations for universities, educators, and government. Some constructive suggestions are also made to address the study's limitations to guide future research.

5.2 Recommendation

Firstly, to encourage students to engage in entrepreneurial activities, governments can establish entrepreneurial funds or loan programs to provide potential students with start-up capital or funding, helping them overcome financial barriers in the entrepreneurial process. Simultaneously, governments should streamline entrepreneurship registration and licensing procedures, reducing administrative costs and time required for entrepreneurship and minimizing policy obstacles for student entrepreneurs. Additionally, governments can offer tax and other incentives to motivate students to pursue entrepreneurship. Furthermore, governments must strengthen entrepreneurial market supervision, mitigate unfair competition, and create a level playing field for student entrepreneurs. These measures can foster a proactive personality among students, instilling in them the belief that they possess abundant resources and ample opportunities and anticipate encountering fewer obstacles in their entrepreneurial journey, thereby cultivating a positive evaluation of entrepreneurship and generating entrepreneurial intentions.

Secondly, higher education institutions should focus on entrepreneurship education, combine traditional classroom teaching with entrepreneurship practice, seamlessly link entrepreneurship education with vocational education, and integrate it into the curriculum system, curriculum objectives, and the whole process of education and teaching. At the same time, conditions should be created to establish entrepreneurial incubators and accelerators such as college student science and technology parks to provide students with the places, mentor support, and network resources they need to start their businesses, to help them obtain better support and guidance in the early stages of entrepreneurship.

Through entrepreneurship classroom teaching and practice, help students understand the process and challenges of entrepreneurship, enable students to acquire the abilities, talents, and skills required for entrepreneurship, and enhance their self-confidence, thinking that they have enough ability to set up a business and improve their self-efficacy for entrepreneurship, thereby increasing their willingness to set up a business.

To sum up, when the social environment is conducive to entrepreneurship and school education cultivates students' entrepreneurial ability, significant others around students will have more confidence to support and encourage students to start a business. These factors will jointly enhance students' entrepreneurial attitudes and significantly affect students' entrepreneurial intentions.

5.3 Limitation and Further Study

It is important to acknowledge the limitations of this research and consider the following suggestions for future studies. Firstly, although ZUST students come from all over the country, this study only used a sample of students from one university and three faculties of economics and management who had taken one entrepreneurship course and did not include students from other backgrounds. Further research could include students from more majors or universities and comparative studies between students with business and engineering backgrounds or between those who have completed entrepreneurship courses and those who still need to. Second, the data for this research was collected quantitatively through questionnaires. As a next step, researchers could also use qualitative methods to collect data by conducting focus group interviews, case studies, or in-depth interviews with students to understand their entrepreneurial intentions and experiences, to follow up on participants' entrepreneurial intentions and behaviors, and to extend this model of entrepreneurial intentions to the measurement of actual entrepreneurial behaviors. Third, this study is based on two theories, TRA and TPB, and extends only two variables, entrepreneurship education and proactive personality, to predict entrepreneurial intention. In the future study, more contextual and cognitive factors, such as exposure to role models and university support systems, can be included to predict intention. In addition, only one antecedent of the TPB, attitude, was used as a mediating variable in this study, and two other antecedents, subjective norms and perceived behavioral control can be considered mediating variables in the next study.

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