

Evaluation of factors related to entrepreneurial intentions among young pharmacists in the Mekong Delta region: a cross - sectional study in Vietnam

Vo Thi My Huong¹, Nguyen Phuc Hung², Nguyen Thi Trang Dai³, Vo Pham Trinh Thu⁴, Tang Nghiep Minh⁵, Phan Anh Tu⁶, Mai Thu Suong⁷

1 Department of Pharmaceutical Chemistry, Faculty of Pharmacy, Can Tho University of Medicine and Pharmacy, 179 Nguyen Van Cu, Can Tho 900000, Vietnam

2 Department of Pharmaceutical Management, Faculty of Pharmacy, Can Tho University of Medicine and Pharmacy, 179 Nguyen Van Cu, Can Tho 900000, Vietnam

3 Department of Pharmacognosy - Botany - Traditional medicine, Faculty of Pharmacy, Can Tho University of Medicine and Pharmacy, 179 Nguyen Van Cu, Can Tho 900000, Vietnam

4 Center Foreign Language, Can Tho University, Campus II, 3 thang 2 street, Can Tho 900000, Vietnam

5 Can Tho University, Campus II, 3/2 Street, Ninh Kieu District, Can Tho City, Vietnam

6 School of Economics, Can Tho University, Campus II, 3/2 Street, Ninh Kieu District, Can Tho City, Vietnam

7 Can Tho University of Medicine and Pharmacy, 179 Nguyen Van Cu, Can Tho 900000, Vietnam

Corresponding author: Hung Phuc Nguyen (nphung@ctump.edu.vn)

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Abstract

At present, a new wave of entrepreneurship has emerged and made a significant impact in Vietnam despite challenges. The study aims to assess the factors related to the entrepreneurial intentions of young pharmacists in 2023 in the Mekong Delta region. A cross-sectional descriptive method was conducted, involving interviews with 815 young pharmacists living in the Mekong Delta region, via a pre-designed research questionnaire. Results showed that 6 out of 43 variables were eliminated after Cronbach's alpha was run. The Kaiser-Meyer-Olkin coefficient (0.5–0.923) indicated statistical significance and suitable conditions for Exploratory Factor Analysis. Confirmatory Factor Analysis and Structural Equation Modeling results were consistent with market data. With the impact of difficulties, attitude, perception of behavioral control, subjective norms, achievement needs on knowledge, and knowledge on entrepreneurial intentions ($p < 0.05$). In conclusion, the study successfully collected samples and gained a deeper understanding of the factors influencing the entrepreneurial intentions of young pharmacists.

Keywords

entrepreneurial intentions, entrepreneurial spirit, Mekong Delta, young pharmacists

Introduction

In the 21st century, organizations emphasize innovation and creativity in all fields of activity (Delmar and Davidsson 2000). Business plays a crucial role in today's economic development, requiring new breakthroughs and innovation in ideas to create new industries and provide more employment opportunities for the people. The pharmaceutical industry is no exception, as young pharmacists continuously enhance their skills and explore new directions to rejuvenate various sectors within the pharmaceutical field. Pharmacists are indispensable in the healthcare system, not only addressing health-related issues in society but also contributing to the construction of an outstanding healthcare system, continuously striving to improve ethical knowledge.

Entrepreneurial intention is the trend to start a new business activity. Therefore, the intention of young pharmacists can be considered as one of the factors in realizing entrepreneurial behavior, and the intention to carry out this behavior depends on the attitude of individuals. This intention indicates the potential of a pharmacist to enter the pharmaceutical industry in the future.

Throughout history, various theories and models have been proposed by different scholars, such as the Planned behavior theory (Ajzen 2002), Attitude approach predicting entrepreneurial mindset (Robinson et al. 1991), Entrepreneurial intention (Krueger and Carsrud 1993), and Competitive model of entrepreneurial intention (Nancy and George 1994). Many studies (Bowen and Clercq 2008) have demonstrated that entrepreneurial mindset significantly impacts the economic prosperity of nations. According to Oosterbeek (Oosterbeek et al. 2010), developed countries in Europe and the United States rely on a higher level of entrepreneurship to achieve economic growth and innovation. The Association of American Colleges of Pharmacy recommends using the entrepreneurial competency groups of Freshman and Rubino (Freshman and Rubino 2002), including decision-making, strategic thinking, risk acceptance, building confidence, conveying ideas, motivating team members, accepting ambiguity, and internal control, as a framework for developing a pharmaceutical business (Amiri-Ardekani et al. 2021). There are also many other studies on entrepreneurial intention or mindset in various countries, such as Entrepreneurship Education and its Impact on Students' Entrepreneurial Intentions: A Typical Study of Students from Two Tunisian Universities, Factors Affecting the Entrepreneurial Intentions of Mongolian University Students by Altanchimeg Zanabazar and Sarantuya Jigjiddorj (Zanabazar and Jigjiddorj 2020), a study on determining the entrepreneurial intentions of Pharmacy students in Iran (Fashami et al. 2020).

In Vietnam, the issue of business entrepreneurship is carried out in all fields and for all target groups in general, and specifically among students attending universities. According to a report from the Asian Development Bank (ADB), the youth unemployment rate in Vietnam in 2020 could increase to 13.2%. The statistics show that only 1.8% of graduates create entrepreneurial opportunities for themselves.

The goal of this study is to understand the correlation between entrepreneurial intentions and difficulties, attitudes, achievement needs, perception of behavioral control, and subjective norms among young pharmacists in Vietnam. The research questions are determined based on the research objective: Which factors influence the entrepreneurial intentions of young pharmacists?

Theoretical foundation

Entrepreneurship has proven to be an effective tool for creating economic value and, at the same time, a means to address various social issues. Entrepreneurial intention is the inclination to start a new venture in the future. This intention indicates the potential of an entrepreneur to enter the pharmaceutical industry in the future. Krueger and Carsrud (1993) define entrepreneurial intention as the commitment to start a new business venture.

From a significant amount of previous research on entrepreneurial intention, three governing factors have been identified. The first is demographic factors, including age, gender, prior experience, and the influence of role models. The second is personality traits, including self-efficacy, self-confidence, autonomy, control ability, risk-taking propensity, and occupational attractiveness. The third factor is the context, including education and the environment (Wärneryd 1998). Some studies have examined the role of demographic variables in shaping students' entrepreneurial tendencies, yielding different results (Wang and Wong 2004). On the other hand, Elali and Ai-Yacoub (2016) revealed that social networks have a significant impact on the development of entrepreneurial intention.

According to the theory of entrepreneurial characteristics, entrepreneurial intention is determined by specific characteristics. These include a high achievement need, defined as a willingness to accept financial risks, acceptance of ambiguity, referring to the lack of fear of the unknown, innovation, the ability to create or modify existing business concepts, and intuition, which involves planning for events before they occur (Nancy and George 1994). Additionally, these characteristics are the result of individuals' experiences; they focus on opportunities for success and tend to avoid situations with low or high risk. This need motivates individuals to make a maximum effort to achieve their set goals. Alongside this, subjective norms also significantly influence entrepreneurial intention. Subjective norms involve an individual's belief in oneself. Subjective norms are related to the social pressure that young pharmacists will face. Depending on the social environment, these pressures can either become motivators or barriers to entrepreneurial mental development. Financial pressures can act as a catalyst for individuals to seek new ways to generate income, especially if they are facing constraints in traditional employment or striving for financial independence. A study conducted in Viet Nam found that the intention of dispensing antibiotics without prescription of community pharmacists might come from the pressure of customers and drugstore owners (Hung et al. 2023). Previous studies have concluded that subjective

norms have a positive relationship with entrepreneurial intention (Kolvereid 1996a; Solesvik et al. 2012).

According to the environmental approach theory, entrepreneurial choices are related to external factors seen as cultural images, education, experience, and family background influencing individuals' entrepreneurial intentions. Ahmed and Usman (2018) studied various factors to determine the determinants of students' entrepreneurial intentions in Pakistan. They found that innovation and family business experience were related to entrepreneurial intention. Turker and Selcuk (2009) identified two significant factors (perceived educational support and perceived support structure) influencing university students' intentions in Turkey. Bhandari (2006) studied the entrepreneurial intention of university students in India and found six factors: leadership of others, implementing innovative ideas, being my boss, determination, personal challenge, and non-business education are essential factors for starting a new business.

According to Ajzen (Ajzen 1991), the attitude towards entrepreneurial behavior reflects an individual's positive or negative evaluation, support, or opposition to the intended action. It represents an individual's favorable or unfavorable evaluation of the behavior. When pharmacists have a positive attitude towards entrepreneurship, perceive benefits, and have opportunities and resources, they will engage in entrepreneurship. Other factors influencing the attitude towards entrepreneurial behavior include risk acceptance, freedom, and independence (Krueger et al. 2000).

An insight from Bandura's (Bandura 1986) social cognitive theory and Ajzen's (Ajzen 1991) theory of planned behavior (TPB) is that, before engaging in behavior, individuals must have an intention and a plan for it. In the psychological behavior approach, intention is an important indicator influencing behavior when these behaviors are rare, difficult to observe, and occur at unpredictable times. According to Austin et al. (2006), entrepreneurship takes advantage of business opportunities to enrich oneself by initiating innovative activities in conditions of limited resources. Therefore, more broadly understood, entrepreneurship is an individual starting their own business activities (Begley and Wee-Liang 2001), whether an individual accepts the risk to start a new business by investing business capital or opening a business store (MacMillan and Katz 1992). In a narrower sense, entrepreneurship is a work attitude that emphasizes autonomy, creativity, innovation, and risk-taking to create new value for customers (Bird 1988).

According to the theory of reasoned action (TRA), behavioral intention is determined by individual attitudes and their perceived control. Subjective norms also influence attitudes by performing observable behaviors (Ajzen and Fishbein 1975). This theory was established to predict voluntary behavior and help individuals recognize the psychological factors of their behavior. The two main factors influencing intention are personal attitudes and subjective norms. Individual attitudes can be a positive or negative evaluation of an individual toward a behavior.

Intention is defined as motivating factors influencing someone's behavior. Entrepreneurial intention can also be seeking information and other resources to start a venture (Katz and Gartner 1988), or it can be a commitment to undertake entrepreneurial behavior (Krueger et al. 2000). Entrepreneurial intention is the first step in the process of exploring, creating, exploiting opportunities for entrepreneurship, and starting new business activities (Gartner et al. 1994). Furthermore, previous studies have proven that knowledge is also a factor that promotes individuals toward entrepreneurship.

When researching the entrepreneurial intention of pharmacy students in Chennai, the hypotheses were placed in a favorable direction to entrepreneurial intention, including risk acceptance, psychological control point, achievement needs, job autonomy, entrepreneurial environment, and education (Sankar and Sudha 2016). Another study on entrepreneurial intention and internal business of pharmacy students in Iran researched factors related to achievement needs, leadership effectiveness, autonomy, significantly related to entrepreneurial intention. The relationship between having an entrepreneur in the family with entrepreneurial intention and the intrinsic motivation of entrepreneurs (nurtured in a family with a business foundation creates a special context that influences the future career intentions of children, family members can be a source of financial or non-financial support).

Perception of behavioral control (PBC): According to Ajzen (Ajzen 2002), perception of behavioral control can be seen as an individual's perception of the difficulty of performing entrepreneurial behavior. Additionally, perception of behavioral control focuses on an individual's belief in control over the behavior. That is, the degree of ease or difficulty in performing a behavior. The theory was first applied to explain entrepreneurial intention by Krueger and Carsrud (Krueger and Carsrud 1993), and since then, it has been demonstrated to reasonably explain entrepreneurial intention. Many previous studies have found empirical evidence showing that perception of behavioral control influences entrepreneurial intention because an individual with a high control ability will be more confident and will perceive higher feasibility, thereby encouraging individuals to engage in behavior. In this study, the authors argue that perceived control behavior significantly increases the likelihood of forming the entrepreneurial intention of students (Kolvereid 1996b; Tkachev and Kolvereid 1999). It also refers to a person's perception of the personal feasibility of the mentioned behavior (Boissin 2005).

Methods

Research design

This study adopts a cross-sectional descriptive approach. Data were gathered through interviews with young pharmacists (aged 20 – under 40) using a pre-prepared questionnaire (either in print or Google form) focusing on startup knowledge from May 2023 to November 2023.

Research participants

The study targets young pharmacists aged 20 to under 40, residing or temporarily living in various Mekong Delta provinces, who voluntarily participated in the research.

Selection criteria

Young pharmacists capable of understanding the questionnaire and willing to participate in the study.

Exclusion criteria

Young pharmacists providing incomplete survey responses.

Research ethics

Our research adhered to the guidelines outlined in the Declaration of Helsinki. The study protocol received approval from the Medical Ethics Council of Can Tho University of Medicine and Pharmacy, Vietnam (approval number 23.014.GV/PCT-HĐĐĐ). Prior to enrollment in the study, all participants provided written informed consent.

Data collection method

In investigating entrepreneurial intentions, the researchers employed a sociological survey method with a convenience sampling approach (Parke and Eilbirt 1975). Data were collected through a quantitative questionnaire administered through interviews with young pharmacists across 13 provinces in the Mekong Delta region, with a total sample size of 815.

Sample size and sampling method

To use Exploratory Factor Analysis (EFA), the sample size needs to be large and is determined based on the minimum sample size and the number of variables entered into the analysis. Following Carpenter's recommendation of a minimum observation/variable ratio of 5:1, with 43 questions in the adjusted survey, the minimum sample size is 215. In this study, the actual sample size is 815, meeting the conditions for sample size (Carpenter S 2018).

Questionnaire construction

The questionnaire consists of three parts:

Demographic Information: Including age, gender, workplace, living area, economic status, educational background, current occupation, and parents' occupations and monthly income awareness of entrepreneurship.

Knowledge Survey: Comprising 14 questions, each scored based on correctness. Participants are categorized into three levels: Poor (<50% total score/below 7 points), Average (50%–70% total score/7 to 9.8 points), Good (>70% total score/9.8 points and above) (Mansour and Al-Kayali 2017).

Entrepreneurial Intentions: Focusing on the respondents' perspectives on entrepreneurial intentions and influencing factors. All responses are measured on a 5-point Likert scale, ranging from "strongly disagree" (1) to "strongly agree" (5).

In summary, the study aims to investigate the impact of knowledge, attitudes, achievement needs, perception of behavioral control, and subjective norms on entrepreneurial intentions among young pharmacists in the Mekong Delta region from May to November 2023.

Research model

This model predicts and explains the tendency to perform behavior through the favorable influence of difficulty, attitude, achievement needs, perception of behavioral control, subjective norms on knowledge, and knowledge on entrepreneurial intentions (Fig. 1).

Hypotheses

Hypothesis H1: Difficulty has a positive impact on the knowledge of young pharmacists in the Mekong Delta.

Hypothesis H2: Attitude has a positive impact on the knowledge of young pharmacists in the Mekong Delta.

Hypothesis H3: Achievement needs have a positive impact on the knowledge of young pharmacists in the Mekong Delta.

Hypothesis H4: Perceived behavioral control has a positive impact on the knowledge of young pharmacists in the Mekong Delta.

Hypothesis H5: Subjective norms have a positive impact on the knowledge of young pharmacists in the Mekong Delta.

Hypothesis H6: Knowledge has a positive impact on the entrepreneurial intentions of young pharmacists in the Mekong Delta.

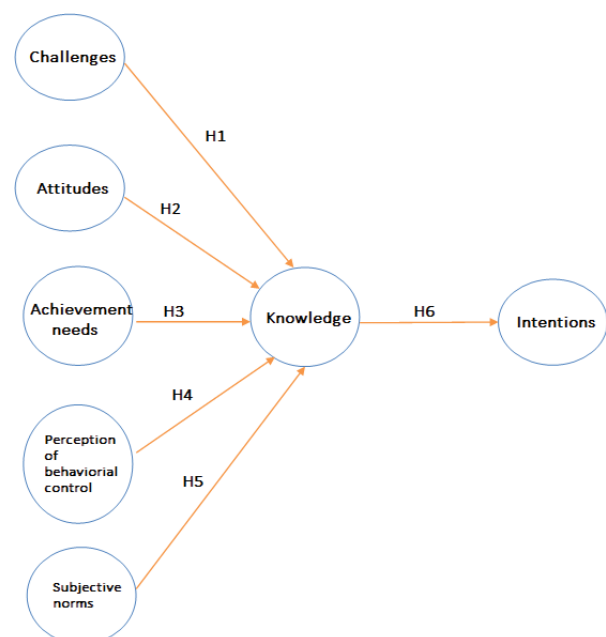


Figure 1. Research model.

Analysis method

This study employed a linear structural equation model and conducted various tests, including the reliability test of measurements using Cronbach's Alpha, exploratory factor analysis (EFA), confirmatory factor analysis (CFA), and structural equation modeling (SEM).

The Cronbach's Alpha (CA) reliability coefficient was used to assess the reliability of measurements. This tool helped examine the reliability and goodness of the observed variables of the latent factor (Factor A). This test reflected the degree of tight correlation between observed variables within the same factor, indicating which variables contributed to measuring the concept of the latent factor and which did not. A good Cronbach's Alpha result for the factor indicated that the listed observed variables were reliable, demonstrating the characteristics of the latent factor, and a good measurement scale for this factor was obtained.

Following this was the exploratory factor analysis (EFA). EFA was used to reduce a set of k observed variables into a set of F ($F < k$) more meaningful factors. The basis of this reduction relied on the linear relationship of factors with the primitive variables (observed variables). The extraction method used in factor analysis, specifically Principal Components Analysis with Varimax rotation, was the most common approach. The factor loading coefficients of variables had to be ≥ 0.5 , and $0.5 < KMO < 1$ indicated the appropriateness of EFA (Kaiser 1974).

Subsequently, confirmatory factor analysis (CFA) was conducted within the linear structural equation model, which has advantages over traditional methods such as exploratory factor analysis (EFA). This method improved the reliability and validity of measurements, enhanced the appropriateness of models, and facilitated more accurate conclusions and solutions. Finally, the structural equation model (SEM) was employed using AMOS to test the research questions and hypotheses in this study, a commonly used tool in recent scientific research. SEM tests relied on indices such as CFI, TLI, and these indices had to be greater than 0.9 (Bentler and Bonett 1980; Hair et al. 2011) to consider SEM as a statistically useful tool for testing research theories and conceptual models using experiential data. Moreover, SEM would determine the significant relationships between hypotheses in the research framework based on the collected data. Additionally, AMOS would be used to analyze qualitative data from interviews, which would be recorded and encoded according to pre-determined themes.

Results

General characteristics of the study sample

Observational research conducted in the same interviews collected data on gender distribution. The female observation group accounted for 69.1%, while males comprised

only 30.9%. There was a significant gender difference in the collected observations. Most participants were vocational/college school (46.5%) and worked at pharmacy/drugstore counter (42.6%). Most of their parents were farmers (41.7% and 48.3%) and had income > 5 million – 10 million (38.7%) (Table 1).

After describing the study sample, we proceed with the analysis of tests according to the research process. First, the study conducted Cronbach's Alpha test for each research concept. Next, the study conducted Ex-

Table 1. General characteristics of research subjects.

Sample characteristics	Frequency	Percentage (%)
Gender		
Male	252	30.9
Female	563	69.1
Current residence		
Urban	316	38.8
Countryside	499	61.2
Economic status		
Wealthy - Well-off	379	46.5
Sufficient	351	43.1
Financially Underprivileged	85	10.4
Education		
Vocational /College Pharmacist	379	46.5
University Pharmacist	351	43.1
Master's/Ph.D. (Postgraduate) Pharmacist	85	10.4
Occupation		
Pharmacist at Hospital Pharmacy	199	24.4
Clinical Pharmacist	29	3.6
Pharmacists at Pharmacy/Drugstore Counter	347	42.6
Pharmacy Technicians	45	5.5
Factory Pharmacists	8	1.0
Pharmacists in other government agencies	49	6.0
Postgraduates in Pharmacy	42	5.2
Job seekers	96	11.8
Others	0	0
Father's occupation		
Private Business Owner	73	9.0
Small businesspeople	43	5.3
Farmers	340	41.7
Workers	18	2.2
Government Officer	125	15.3
Job seekers	0	0
Retired	164	20.1
Others	52	6.4
Mother's occupation		
Private Business Owner	65	8.0
Small businesspeople	65	8.0
Farmers	394	48.3
Workers	10	1.2
Government Officer	50	6.1
Job seekers	0	0
Retired	162	19.9
Others	69	8.5
Salary		
Under 3 million	88	10.8
3 million– 5 million	345	42.3
> 5 million– 10 million	315	38.7
> 10 million – 20 million	53	6.5
> 20 million – 40 million	9	1.1
> 40 million	5	0.6

ploratory Factor Analysis (EFA) for the research sample, followed by Confirmatory Factor Analysis (CFA), and finally, Structural Equation Modeling (SEM) analysis to test the research model hypothesis on the entrepreneurial intentions of young pharmacists in the Mekong Delta.

Cronbach's alpha test results

After utilizing the SPSS software, the analysis of the Cronbach's Alpha reliability coefficients for the independent and dependent variables showed reliability scores ranging from a minimum of 0.7 to a maximum of 0.95. A correlation greater than 0.3 indicates reliability. Thus, all variables within the scale met the requirements and were accepted for analysis in subsequent variables. When the Cronbach's Alpha is greater than 0.95, the variables are almost equal to 1. The results of the Cronbach's Alpha analysis in this study indicated that the scales of the 06 factors were all above 0.8, ensuring the reliability and validity requirements (O'Hair et al. 1998). Among them, variables NCTT3,

A7, SN8, PBC8, and KK12 were excluded due to having higher current CA scores, and I5 was excluded because its score of 0.075 was below the minimum CA threshold (Table 2).

Exploratory Factor Analysis (EFA)

After removing inappropriate variables, the scales were subjected to Cronbach's Alpha reliability analysis and then utilized in the Exploratory Factor Analysis (EFA). This method aims to assess the convergence and discrimination of the conceptual scales. EFA does not differentiate between independent and dependent variables but relies on the correlation between observed variables. Each observed variable is assigned a score called the factor loading.

Key indices in EFA include the Kaiser-Meyer-Olkin (KMO) coefficient, the number of factors extracted at Eigenvalues ≥ 1 , factor loading coefficients, and the total explained variance. The KMO coefficient, with values sufficiently large ($0.5 < \text{KMO} < 1$), indicates that the conditions for factor analysis are appropriate.

Table 2. Description of the reliability of the scales through Cronbach's Alpha coefficients.

AN variables	Correlation coefficient - total	Cronbach's alpha when excluding variables	Cronbach's alpha coefficient
Achievement Needs			
AN1. Entrepreneurial success helps you gain respect and high regard from others.	0.772	0.581	
AN2. Entrepreneurial success helps you become famous and well-known by many people.	0.741	0.613	0.798
AN3. Entrepreneurial success helps you earn admiration from many people.	0.450	0.902	
Attitude			
A1. You are serious about entrepreneurship.	0.890	0.914	
A2. Entrepreneurship is a good condition for your personal development.	0.872	0.916	
A3. Entrepreneurship helps you create values beneficial to society.	0.871	0.916	
A4. Entrepreneurship helps you have new experiences in life.	0.783	0.924	0.934
A5. You desire to have your own business.	0.849	0.918	
A6. Successful entrepreneurship will provide you with stable employment and high income in the future.	0.894	0.914	
A7. Entrepreneurship helps you realize your dreams and passions.	0.407	0.959	
Subjective Norms			
SN1. The current unemployment situation is a motivation for you to start a business.	0.646	0.882	
SN2. The situation of employees working excessively (doing extra tasks, working too much overtime, etc.) is a motivation for you to start a business.	0.759	0.872	
SN3. The care and support of family/friends are motivations for you to start a business.	0.754	0.872	
SN4. The success of other entrepreneurs is a motivation for you to start a business.	0.575	0.891	
SN5. Are you aware of the government's entrepreneurship support policies?	0.745	0.872	0.893
SN6. The knowledge and skills acquired from university are the foundation for you to pursue your entrepreneurial dreams.	0.780	0.870	
SN7. The knowledge and experience gained from your job are the basis for you to pursue your entrepreneurial dreams.	0.740	0.873	
SN8. A better life/economy is a motivation for you to start a business.	0.446	0.903	
Perception of Behavioral Control			
PBC1. You have the capability to build your own business.	0.693	0.867	
PBC2. You have enough skills and experience to lead the development of a business.	0.735	0.863	
PBC3. You have enough experience to identify risks when starting a business.	0.694	0.867	
PBC4. You have enough skills and experience to control risks when starting a business.	0.726	0.865	
PBC5. You will make efforts to realize your entrepreneurial ideals.	0.742	0.863	0.885
PBC6. You have enough determination to make important decisions when starting a business.	0.702	0.867	
PBC7. You have the ability to communicate well and utilize it while starting a business.	0.608	0.877	
PBC8. You have enough skills to mobilize capital for your startup.	0.399	0.898	

AN variables	Correlation coefficient - total	Cronbach's alpha when excluding variables	Cronbach's alpha coefficient
Challenges			
C1. Entrepreneurship requires having sufficient capital.	0.716	0.904	
C2. Entrepreneurship requires sacrificing one's own financial resources.	0.513	0.913	
C3. Entrepreneurship requires patience and determination.	0.734	0.903	
C4. Entrepreneurship requires outstanding creativity.	0.746	0.902	
C5. Entrepreneurship involves a high level of risk.	0.642	0.907	
C6. Entrepreneurship requires dependence on collaborators.	0.690	0.905	
C7. Family economic pressure inhibits your intention to start a business.	0.591	0.910	0.914
C8. Limited teamwork skills restrict your entrepreneurial intentions.	0.752	0.902	
C9. When starting a business, you will face difficulties in attracting customers.	0.689	0.905	
C10. Customers increasingly choose wisely, making it challenging for startups.	0.655	0.906	
C11. You will borrow from a bank to start a business when there is not enough initial investment.	0.740	0.903	
C12. Concerns about loans/debts during entrepreneurship are eliminated.	0.405	0.918	
Intention			
I1. You will start a business in the industry you are currently working in.	0.592	0.594	
I2. You will start a business when you have enough capital or secure a source of funding.	0.652	0.577	
I3. You will start a business when you have trustworthy mentors and reliable companions.	0.545	0.615	0.700
I4. You will start a business as soon as possible.	0.596	0.593	
I5. You will start a business using your own savings.	0.074	0.830	

In our study, all observed variables meet the requirements, with KMO coefficients ranging from a minimum of 0.5 (for achievement motivation analysis) (Table 3) to a maximum of 0.923 (for attitude analysis) (Table 4). This demonstrates statistical significance and confirms that the data are sufficiently suitable for exploratory factor analysis. The results also show compliance with the requirement for total variance explained (>50%). The EIGENVALUES coefficients are all greater than 1 (ranging from 1.841 to 5.046), with P-values of 0.000.

Table 3. The EFA result of Achievement Needs.

Component Matrix ^a	
	Component 1
AN2	0.955
AN1	0.955

Table 4. The EFA result of Attitude.

Component Matrix ^a	
	Component 1
A1	0.942
A6	0.941
A3	0.928
A2	0.922
A5	0.897
A4	0.844

Attitude: (due to the exclusion of A7 in the above CA, there are now 6 variables).

The analysis results meet the requirements with KMO = 0.923. Bartlett's test yields a significance value (Sig) of 0.000, Eigenvalue = 5.001 (> 1), and one factor is extracted. The total explained variance is 83.348%, exceeding 50%, satisfying the conditions for EFA. The analysis is conducted with the observed variables in the independent component (A): Attitude.

The analysis results meet the requirements with KMO = 0.902. Bartlett's test yields a significance value (Sig) of 0.000, Eigenvalue = 4.515 (> 1), and one factor is extracted. The total explained variance is 64.494%, exceeding 50%, satisfying the conditions for EFA. The analysis is conducted with the observed variables in the independent component (SN): Subjective Norm (Table 5).

Table 5. The EFA result of Subject Norm.

Component Matrix ^a	
	Component 1
SN6	0.866
SN2	0.839
SN7	0.837
SN5	0.832
SN3	0.830
SN1	0.737
SN4	0.660

Subjective Norm: (due to the exclusion of SN8 in the above CA, there are now 7 variables).

The analysis results meet the requirements with KMO = 0.870. Bartlett's test yields a significance value (Sig) of 0.000, Eigenvalue = 4.382 (> 1), and one factor is extracted. The total explained variance is 62.603%, exceeding 50%, satisfying the conditions for EFA. The analysis is conducted with the observed variables in the independent component (PBC): Perception of Behavioral Control (Table 6).

The analysis results meet the requirements with KMO = 0.934. Bartlett's test yields a significance value (Sig) of 0.000, Eigenvalue = 6.121 (> 1), and one factor is extracted. The total explained variance is 55.648%, exceeding 50%, satisfying the conditions for EFA. The analysis is conducted with the observed variables in the independent component (C): Challenges (Table 7).

Table 6. The EFA result of Perception Of Behavioral Control.

Component Matrix ^a	
	Component 1
PBC5	0.824
PBC2	0.821
PBC4	0.807
PBC6	0.795
PBC1	0.793
PBC3	0.792
PBC7	0.700

Perception of Behavioral Control: (due to the exclusion of PBC8 in the above CA, there are now 7 variables).

Table 7. The EFA result of Challenges.

Component Matrix ^a	
	Component 1
C8	0.815
C4	0.813
C3	0.801
C11	0.798
C1	0.774
C9	0.753
C6	0.751
C10	0.722
C5	0.693
C7	0.657
C2	0.596

Challenges: (due to the exclusion of C12 in the above CA, there are now 11 variables).

The analysis results meet the requirements with KMO = 0.784. Bartlett's test yields a significance value (Sig) of 0.000, Eigenvalue = 2.870 (> 1), and one factor is extracted. The total explained variance is 71.762%, exceeding 50%, satisfying the conditions for EFA. The analysis is conducted with the observed variables in the independent component (I): Intention (Table 8).

Table 8. The EFA result of Intention.

Component Matrix ^a	
	Component 1
I2	0.859
I1	0.822
I4	0.799
I3	0.781

Intention: (excluding I5 in the above CA, there are now 4 variables).

To sum up, most of the concepts ensure both discriminant and convergent validity with the researched data.

Results of Confirmatory Factor Analysis (CFA)

The CFA results show that the model has TLI = 0.945, CFI = 0.954, GFI = 0.900 (> 0.9), RMSEA = 0.049 (< 0.08), and Chi-square/df = 2.943 (< 3) (Table 9), which are considered appropriate for real-world data (Hu and Bentler 1999). According to Steenkamp and Van Trijp (1991), this reflects the

unidimensionality of the scales. The factor rotation matrix for the results with 37 observed variables converges into one factor group, and all observed variables have factor loading coefficients > 0.5, indicating unidimensionality (Anderson and Gerbing 1988). There is no correlation between the residuals of the observations, achieving unidimensionality. All P-values are < 0.05, so the correlation coefficients for each pair of concepts differ significantly from 1 at a 95% confidence level (Steenkamp and Van Trijp 1991).

Table 9. The result of CFA.

CMIN/DF	GFI	CFI	TLI	RMSEA	PCLOSE	p
2.943	0.900	0.954	0.945	0.049	0.719	0.000

The CFA results of the measurement model are illustrated in the figure below (Fig. 2), with the following outcomes: the model has a Chi-square of 1630.641 ($p = 0.000$), CMIN-df = 2.943. The TLI and CFI indices are 0.945 and 0.954, respectively, both exceeding 0.9, indicating a well-fitting model. If these coefficients are greater than 0.9, the model is considered acceptable. RSMEA is 0.049, which is less than 0.08. In conclusion, the model fits the research data well.

The concepts have $AVE > MSV$, and \sqrt{AVE} is greater than the correlation between the concepts, affirming their discriminant validity. Additionally, the measurement scales for the concepts achieve the necessary convergence and reliability with AVE values of 0.529 and 0.609 (> 0.5) and CR values of 0.817 and 0.884 (> 0.7). The research model is suitable for market data and is appropriate for further CB-SEM analysis (Table 10).

Table 10. Description of convergence and discriminant validity testing results.

	CR	AVE	MSV	MaxR(H)	I ₋	KT ₋
I ₋	0.817	0.529	0.502	0.821	0.727	
KT ₋	0.884	0.609	0.550	0.905	0.845***	0.780

SEM testing results

From the linear structural model with 565 degrees of freedom, Chi-square = 1630.641 ($p=0.000$). The goodness-of-fit index (GFI), ranging from 0 to 1, achieved a good value of 0.900. The root mean square error of approximation (RMSEA) with a value of 0.049 meets the requirement. Currently, reports allow RMSEA to be less than 0.08 with 95% confidence. The comparative fit index (CFI) compares well, with a value above 0.9 considered good. The obtained CFI result is 0.954, indicating a good fit. The Tucker-Lewis Index (TLI), with a value close to 1, indicates a higher fit. The TLI result of 0.945 is good (Fig. 3, Table 11).

Table 11. The result of SEM testing.

CMIN/DF	GFI	CFI	TLI	RMSEA	PCLOSE	p
2.943	0.900	0.954	0.945	0.049	0.749	0.000

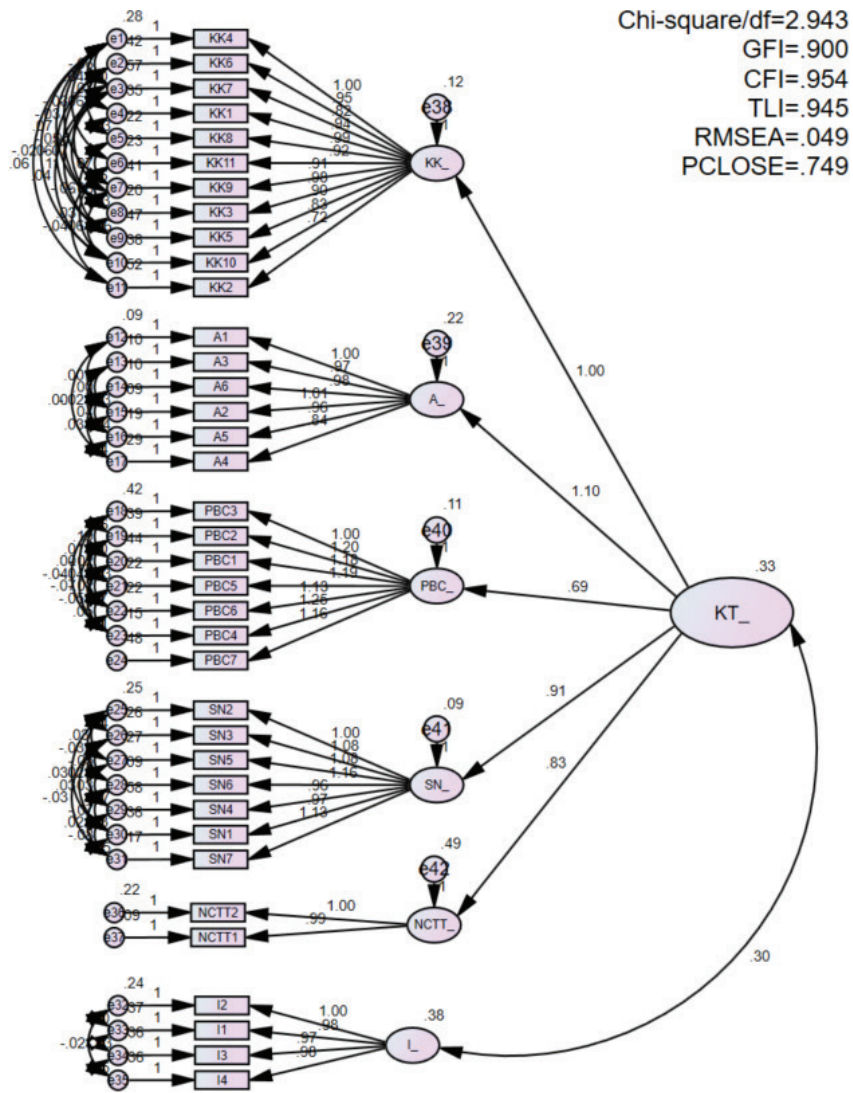


Figure 2. Description of Confirmatory Factor Analysis (CFA) results.

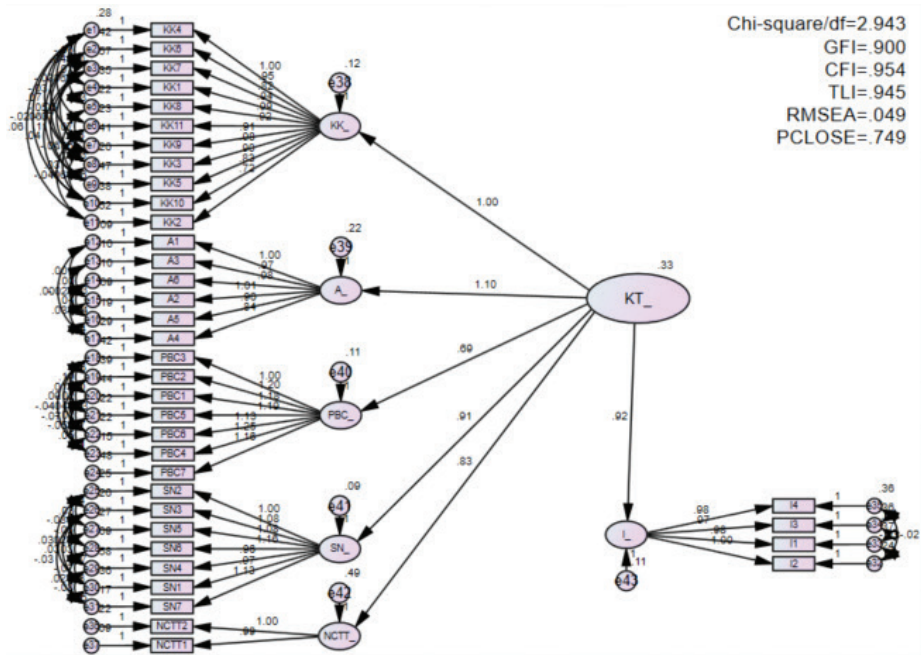


Figure 3. SEM testing results.

Hypothesis testing results

The table below illustrates that the factors impact as follows: The effects of difficulties, attitudes, perceived control, subjective norms, and achievement motivation on knowledge, and knowledge positively impact entrepreneurial intentions, all with significance levels <0.05 (Table 12).

Table 12. Description of hypothesis testing results.

			Estimate	S.E.	C.R.	P	Hypothesis
C_	<---	K_	1.000			***	Accepted
A_	<---	K_	1.098	0.055	19.995	***	Accepted
PBC_	<---	K_	0.694	0.051	13.479	***	Accepted
SN_	<---	K_	0.907	0.051	17.858	***	Accepted
AN_	<---	K_	0.835	0.063	13.195	***	Accepted
I_	<---	K_	0.919	0.053	17.496	***	Accepted

Hypothesis H1: Difficulties have a positive impact on the knowledge of young pharmacists in the Mekong Delta.

Hypothesis H2: Attitude has a positive impact on the knowledge of young pharmacists in the Mekong Delta.

Hypothesis H3: Achievement motivation has a positive impact on the knowledge of young pharmacists in the Mekong Delta.

Hypothesis H4: Perceived control has a positive impact on the knowledge of young pharmacists in the Mekong Delta.

Hypothesis H5: Subjective norms have a positive impact on the knowledge of young pharmacists in the Mekong Delta.

Hypothesis H6: Knowledge has a positive impact on the entrepreneurial intentions of young pharmacists in the Mekong Delta.

This is consistent with the theoretical framework presented in the research.

In summary, entrepreneurial intentions are influenced by the factors of difficulties, attitudes, achievement motivation, perceived control, subjective norms, and knowledge. These impacts are positive and statistically significant.

Discussion

In this study, a significant gender disparity was observed among survey participants, with females constituting 69.1% and males only 30.1%. Varghese and Hassan posit that women have a higher inclination to establish businesses than men because women are more creative and bring new ideas suitable for businesses (Varghese and Hassan 2012). The study by Mae (Mae et al. 2014) underscores gender differences in entrepreneurial intentions, suggesting that women are more motivated to initiate their own projects. Conversely, according to the research by Crant (Crant 1996), men tend to have a trend of starting their own businesses and having stronger entrepreneurial goals than women. However, other studies argue that there is no statistically significant difference between men and wom-

en concerning new entrepreneurial intentions or establishing independent businesses (Kourilsky and Walstad 1998; Terjensen and Shay 2006; Wilson et al. 2007; Smith et al. 2016; Deepali et al. 2017; Ferri et al. 2018). Traditionally, men have been more inclined towards entrepreneurship than women, but this trend is changing, indicating societal shifts towards equality in thoughts and increasing gender parity.

Moving on to the place of residence, there is a significant difference between rural and urban areas, with percentages of 61.2% and 38.8%, respectively. Economic circumstances vary, with the majority of pharmacists residing in affluent to moderately well-off regions (46.5% and 43.1%), while a minority (10.4%) faces difficulties. Economic background was further investigated by Ahmmed, examining its influence on entrepreneurial intentions (Ahmmed et al. 2020). Another study on pharmacy students in Iran showed similar results, with 20.6% facing financial challenges and 79.4% being relatively affluent (Fashami et al. 2021).

Next is the educational level, where 46.5% are at the college/intermediate level, 43.1% at the university level, and 10.4% at the master's/doctoral level (postgraduate). A study in Iran by Fatemeh Myzayer Fashami on the educational levels of fourth-year pharmacy students showed the highest entrepreneurial intentions at 49.3%, while sixth-year students had the lowest at 15.2% (Fashami et al. 2021). Amma's study also addresses educational levels, with basic education at 10.6%, students/trainees with one training course at 54.5%, higher degrees at 8.3%, and bachelor's degrees at 26.5% (Amma and Fahad 2012). Nguyen Anh Tuan's research on factors influencing entrepreneurial intentions among Vietnamese youth aligns with these figures, showing that individuals with a university degree account for 60.1%, followed by those with a college degree at 24.4%, vocational training at 2.8%, and postgraduate education at 2.8% (Tuan et al. 2019).

Concerning professions, a large proportion work in pharmacies/drugstores (42.6%), followed by hospital pharmacy pharmacists (24.4%). About 11.8% are currently seeking employment, and others are distributed across various occupations. Mohamed and colleagues' study adds additional data, indicating that 30% of participants come from pharmacy colleges, 25% from medical schools, 20% from dental schools, and 15% from applied health science colleges. Among the 329 respondents, 76% are final-year students, 24 are recent graduates, and 25% have experience managing their businesses, while 75% have experience working in private or public healthcare (Mohamed et al. 2023). Another study in Hanoi explores students' majors, showing that third and fourth-year university students make up the majority (76.0%), with 53.7% majoring in economics and 36.4% in science, engineering, and technology. However, only 10% of participants surveyed focus on pharmacy and health. Most participants are final-year students (Hue et al. 2022).

Regarding the occupations of parents, farmers account for the highest percentage (41.7%) for fathers, followed

by retirees (20.1%) and government officials (15.3%). For mothers, the highest proportion is still farmers (48.3%), followed by retirees (19.9%), self-employed and small traders (8%), government officials (6.1%), and finally, laborers (1.2%). Concerning the family's business experience, the majority stated they had no family business background (55.5%), and according to Mohamed, Elshaer, Azazz, Younis (Mohmed et al. 2023), their parents had never engaged in entrepreneurship.

Around the world, numerous studies have explored the factors influencing the entrepreneurial intentions of university students or the general population regarding business ventures, and Vietnam is no exception. Vietnam is a developing country where agriculture serves as the mainstay of the economy. Therefore, according to demographic observations, the primary occupation of young pharmacists' parents is often farming. The parent-child relationship stands out as one of the most crucial aspects of the family environment during childhood, playing a decisive role in shaping future career aspirations.

To enhance Vietnam's economy and align with global powers, as advocated by Ho Chi Minh, pharmacists continuously engage in innovation by researching and developing ideas within their respective fields and industries. This study delves into the intentions of young pharmacists, specifically examining the family background, particularly the professions of their fathers and mothers. The positive impact of this exploration lies in the inspiration individuals derive from their parents.

The family foundation is also a significant factor influencing attitudes toward entrepreneurial spirit. Wang and Wong conducted research, proposing two models to explain the family's influence on entrepreneurial intentions: the parent model and the family support model (Wang and Wong 2004). The parent model asserts that parents engaged in entrepreneurship are more likely to influence their families to pursue independent business ventures. The family support model posits that this phenomenon is due to social or financial support provided to their families (Al-Harrasi et al. 2014).

This study has successfully achieved an overall understanding of the entrepreneurship landscape in Vietnam, as well as identified motivating factors influencing the entrepreneurial intentions of young pharmacists, such as attitudes, achievement needs, perceived behavioral control, and subjective norms. These impacts are all positive and conducive. It can be observed that the strongest impact on the entrepreneurial intentions of young pharmacists is the entrepreneurial attitude. This study contributes to the literature on social entrepreneurship by examining the influence of emotional intelligence and creativity to predict

social entrepreneurship by investigating the formation of entrepreneurial intentions.

Furthermore, this research has demonstrated that paying attention to entrepreneurial intentions is crucial across all professions, especially in the context of the increasing demand for medication. In the present scenario, the group of young pharmacists needs to be more innovative, continuously improving and innovating. The results of this study not only highlight the significant impact of investigating factors influencing the entrepreneurial intentions of young pharmacists but also hold significant implications for educational and policy innovations, emphasizing the development of entrepreneurship in terms of both quality and quantity. Simultaneously, it lays a higher foundation for individual entrepreneurial activities and success in future business endeavors.

Limitations

This effort was undertaken to investigate students' perceptions related to entrepreneurship and their knowledge of various entrepreneurial plans. Some significant limitations include: the data from 815 pharmacists is insufficient compared to the total number in the Southern Key Economic Region (SKE); therefore, the results may not fully reflect the appropriateness of the research model. Sometimes, respondents may conceal certain information. Another limitation is that young pharmacists may answer questions in a way they think is appropriate for their field of expertise. Additionally, young pharmacists may choose an extreme approach because the Likert scale was used in the questionnaire.

Addressing these limitations

It is essential to increase the number of pharmacists by continuing to collect additional data from other provinces and cities in Vietnam to enhance the reliability of the data.

Expand the scope of the study for a more comprehensive view.

Identify key and ancillary factors to avoid confusion and gain a better understanding of the results.

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