

# Research on how entrepreneurial capacity and opportunity factors influence the intention of medical staff in the Mekong Delta to start a business in the healthcare sector

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**Keywords:** Entrepreneurship; medical staff; Mekong Delta; entrepreneurial intention

**Parole chiave:** Imprenditorialità; personale medico; Delta del Mekong; intenzione imprenditoriale

## Abstract

**Background.** Entrepreneurship is increasingly being recognized as a solution to the challenges of the market economy, especially in the medical field.

**Study design.** The study used a cross-sectional descriptive method with convenience sampling for data collection.

**Methods.** The study employed random sampling for convenience based on output questions and in accordance with sampling criteria for the Mekong Delta provinces. The data was analyzed with SPSS version 20.0. This is done by calculating the Cronbach's Alpha coefficient and applying the Exploratory Factor Analysis (EFA) method to identify the main factors, thereby determining the official set of questions for the study. EFA is used to find the relationship between independent and dependent variables, as these variables can affect the final results.

**Result.** Gender: Females constitute 70.7% of the participants, while males make up 29.3%. Occupation: The majority of participants are pharmacists, accounting for 74.7% in the medical field. Business orientation: Among the businesses targeted by the participants, trading businesses account for 48.6%. The CFA results indicated good model fit: Tucker-Lewis Index = 0.945; Comparative Fit Index = 0.950, Goodness-of-Fit Index = 0.817 ( $> 0.8$ ), Root Mean Square Error of Approximation = 0.069 ( $< 0.08$ ), and Chi-Square Minimum Discrepancy divided by Degrees of Freedom = 4.980 ( $< 5$ ), indicating a good fit with the actual data. The Structural Equation Modeling results include the following fit indexes: Chi-Square Minimum Discrepancy = 4.590; Comparative Fit Index = 0.955; Tucker-Lewis Index = 0.950; Goodness-of-Fit Index = 0.837; Root Mean Square Error of Approximation Root Mean Square Error of Approximation = 0.066; and Adjusted Goodness-of-Fit Index = 0.809. Entrepreneurial capacity factor and opportunities have a statistically significant impact on start-up intention, with significance levels  $< 0.05$ .

**Conclusions.** Based on the research results, it is evident that the majority of medical staff surveyed recognize the importance of starting a business and have equipped themselves with relevant knowledge. According to the analysed data, the study indicates that entrepreneurial capacity and opportunity factors influence startup intentions. Therefore, developing these factors for each medical staff member is crucial for successful startups. Measures should be implemented to support and foster the entrepreneurial spirit among healthcare professionals in the Mekong Delta and throughout Vietnam.

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## Introduction

The Vietnamese economy faces ongoing challenges, with limited improvements in economic growth. Entrepreneurship is a key focus for both the government and society, seen as a driver of job creation and economic progress. Studies emphasize the role of education and government support in fostering entrepreneurial intentions. For example, Bakheet et al. (1) in 2018 highlighted how institutions enhance students' awareness of entrepreneurship, while Zanaabazar et al. (2) in 2021 found high entrepreneurial intent among university students.

Entrepreneurship originally referred to early-stage business activities. Skala (3) in 2019 linked it to the digital revolution and innovation-driven economies, while Farajzadeh et al. (4) in 2021 emphasized its role in economic growth and innovation, influenced by personal, social, economic, and educational factors.

Despite the Mekong Delta's rich resources and economic significance, healthcare entrepreneurship remains underdeveloped. This study aims to explore how entrepreneurial competencies and opportunities influence healthcare workers' entrepreneurial intentions in the region.

## Methods

### *Questionnaire design*

Part 1: General Demographic Questions of the Research Subjects.

This section includes personal information such as year of birth, gender, occupation, business ownership, and the direction the business aims to pursue.

Part 2: Questions Related to Factors Affecting Entrepreneurial Competence

Part 3: Factors Affecting the Entrepreneurial Intention in the Healthcare Sector Among Medical Staff

In this study, responses to the questions are scored as follows: 1 = "Strongly disagree", 2 = "Disagree", 3 = "Neutral", 4 = "Agree", 5 = "Strongly agree"

The questionnaire is reviewed by experts and revised by the research team to ensure the wording is appropriate for the study, to prevent confusion, and to arrange the questions logically. The team also estimates the time required to complete the survey. This survey targets medical staff aiming to start businesses in the healthcare sector.

A preliminary quantitative study is conducted

to evaluate the content, internal consistency, and reliability of the scale regarding the competence of entrepreneurs in the startup process along with entrepreneurial opportunities in the healthcare sector. This is done by calculating the Cronbach's Alpha coefficient and applying the Exploratory Factor Analysis (EFA) method to identify the main factors, thereby determining the official set of questions for the study. EFA is used to find the relationship between independent and dependent variables, as these variables can affect the results.

### *Study design*

The study used a cross-sectional descriptive method with convenience sampling for data collection.

### *Subject of the study*

The study examined the impact of entrepreneurial competence and opportunities on the intention to start a business in the healthcare sector among medical staff in the Mekong Delta.

### *Inclusion criteria*

Eligible participants are medical staff who have worked or are currently working and studying in various healthcare environments. This group includes healthcare entrepreneurs, doctors, pharmacists specializing in medical services, nursing staff, and other medical professionals. All participants should have experience with startups in the healthcare sector, either as founding team members or experts in startup projects (5).

### *Exclusion criteria*

The study excludes data from patients or users of startup services. It also excludes medical staff who do not fully complete the survey questionnaire, fail to respond in the required sequence, disagree to participate in the survey or lack an intention to start a business or do not engage with startup organizations or companies in the healthcare sector.

### *Sample size*

In this study, we obtained 837 samples, meeting the required sample size (6). According to Gerbing et al. (7) in 1988 and Hindle (8) in 2007, the minimum required sample size for this study is 221. A larger sample size enhances the reliability of the study by reducing sampling errors. Therefore, the study's sample of 837 observations is sufficient for validating the formal models.

### *Sampling methods*

The study employed random sampling for convenience based on output questions and in accordance with sampling criteria for the Mekong Delta provinces.

### *Data Analysis*

Cronbach's Alpha is a commonly used index for evaluating scale reliability, especially in studies on attitudes and intentions. Values range from 0 to 1, with higher values indicating greater reliability. It validates the factors influencing healthcare workers' entrepreneurial intentions, ensuring practical conclusions (9).

Exploratory Factor Analysis (EFA) evaluates sample adequacy using the Kaiser-Meyer-Olkin (KMO) coefficient. A KMO value between 0.5 and 1 indicates suitability for factor analysis. Variables with Factor Loading  $\geq 0.5$  are considered statistically significant. Key criteria include KMO, Eigenvalues  $\geq 1$ , Factor Loading, and Total Variance Explained (10).

Confirmatory Factor Analysis (CFA) assesses how well the model fits the data when the structure is predefined. CFA results show Tucker-Lewis Index (TLI) = 0.945, Comparative Fit Index (CFI) = 0.950, Goodness-of-Fit Index (GFI) = 0.817 ( $> 0.8$ ), Root Mean Square Error of Approximation (RMSEA) = 0.069 ( $< 0.08$ ), and ( $< 0.08$ ), and Chi-Square Minimum Discrepancy divided by Degrees of Freedom (CMIN/DF) = 4.980 ( $< 5$ ), indicating good fit. All observed variables have Factor Loading  $> 0.5$ , with no error

correlation, confirming one-dimensionality (11,12).

Structural Equation Modeling (SEM), a second-generation data analysis method, determines the impact of factors on entrepreneurial intentions while accounting for measurement errors. SEM results CMIN/DF = 4.590, CFI = 0.955, TLI = 0.950, GFI = 0.837, RMSEA = 0.066, Adjusted Goodness-of-Fit Index (AGFI) = 0.809) confirm the model's fit. This study provides a reliable, valid questionnaire reflecting the theoretical model.

### *Ethics in research*

This study was approved by the Biomedical Research Ethics Committee of Can Tho University of Medicine and Pharmacy. Ethical guidelines regarding security and data storage were strictly followed to ensure anonymity. Access to the survey information tables is restricted to the research team only. The researchers guaranteed that the responses would be used solely for academic research purposes (13-15).

## **Result**

As mentioned in Table 1, in terms of gender, females represent a high proportion at 70.7%, followed by males at 29.3%. Most professionals are pharmacists, accounting for 74.7% in the healthcare sector. The rate of not owning a business is 70.7%. Among the types of businesses being aimed for, business enterprises account for 48.6%.

Table 1 - General characteristics of research subjects

Characteristics of the Study Sample		Frequency (n=837)	Ratio (%)
Sex	Male	245	29.3
	Female	592	70.7
Your current occupation in the medical field	Doctor	64	7.6
	Pharmacy	625	74.7
	Medical student	148	17.7
Do you have your own business?	Yes	245	29.3
	No	592	70.7
The type of business that you are aiming for.	Business enterprise	407	48.6
	Private limited company	159	19.0
	Joint-stock company	86	10.3
	Other	185	22.1

Table 2 - Results of analyzing the reliability of take risks

Variable-total correlation		
Survey variables	Coefficient of correlation of total variables	CA coefficient when eliminating variables
<b>TR1.</b> You identified the potential risks that may arise when starting a business in the healthcare sector.	0.875	0.949
<b>TR2.</b> You know how to overcome the risks you are facing.	0.940	0.900
<b>TR3.</b> You have the ability to turn risks into opportunities.	0.886	0.942
<b>Cronbach's Alpha coefficient (CA): 0.953</b>		

Table 3 - Results of analyzing the reliability of looking for information

Variable-total correlation		
Survey variables	Coefficient of correlation of total variables	CA coefficient when eliminating variables
<b>LFI1.</b> You know how to search and select information related to startups in the healthcare industry.	0.955	0.976
<b>LFI2.</b> You know how to search diversely on different websites.	0.940	0.980
<b>LFI3.</b> The information you found has a transparent and clear origin	0.960	0.975
<b>LFI4.</b> Your approach to accessing information is quick and accurate	0.961	0.974
<b>Cronbach's Alpha coefficient (CA): 0.982</b>		

Table 4 - Results of analyzing the reliability of acumen

Variable-total correlation		
Survey variables	Coefficient of correlation of total variables	CA coefficient when eliminating variables
<b>AC1.</b> You have the agility to seize opportunities before other startups	0.945	0.951
<b>AC2.</b> You are perceptive in establishing a startup process that aligns with the health needs of customers.	0.950	0.949
<b>AC3.</b> You clearly understand the needs of your target customers.	0.889	0.967
<b>AC4.</b> You discovered new methods for your startup business.	0.899	0.964
<b>Cronbach's Alpha coefficient (CA): 0.968</b>		

Table 5 - Results of analyzing the reliability of leadership capacity

Variable-total correlation		
Survey variables	Coefficient of correlation of total variables	CA coefficient when eliminating variables
<b>LC1.</b> You have the ability to run a business	0.883	0.915
<b>LC2.</b> You assign tasks to employees in a fair and appropriate manner	0.875	0.921
<b>LC3.</b> The growth of the business depends mainly on your leadership ability.	0.884	0.914
<b>Cronbach's Alpha coefficient (CA): 0.943</b>		

### Testing the reliability coefficient of variable scales by Cronbach's Alpha

As indicated in Table 2, the *take risks* component retains three elements when the required conditions are met.

As presented in Table 3, the *looking for information* component maintains four elements when the required conditions are met.

As mentioned in table 4, in the *acumen* component maintains four elements when the required conditions are met.

In accordance with the information in Table 5, in the *leadership capacity* component maintains three elements when the required conditions are met.

Table 6 reveals that in the *strategic direction capacity* component maintains three elements when the required conditions are met.

Observing the information in Table 7, in the *capacity to establish relationships* component maintains three elements when the required conditions are met.

Observing the information in Table 8, it is noted that the C4 factor – “You can apply innovative technology and science to the start-up process in the medical industry” - is eliminated from the creativity component because the CA coefficient, when eliminating the variable (0.974), is larger than the current CA coefficient. The remaining three factors are unchanged when the required conditions are met.

Table 6 - Results of analyzing the reliability of strategic direction capacity

Variable-total correlation		
Survey variables	Coefficient of correlation of total variables	CA coefficient when eliminating variables
<b>SDC1.</b> You can outline a strategic direction for startup development.	0.947	0.940
<b>SDC2.</b> Your startup strategy is appropriate to your business situation.	0.925	0.956
<b>SDC3.</b> Your strategy fits the market economy in the healthcare sector.	0.919	0.960
<b>Cronbach's Alpha coefficient (CA): 0.968</b>		

Table 7 - Results of analyzing the reliability of capacity to establish relationships

Variable-total correlation		
Survey variables	Coefficient of correlation of total variables	CA coefficient when eliminating variables
<b>CTER1.</b> You build positive relationships with partners.	0.906	0.937
<b>CTER2.</b> You establish good relationships with customers.	0.923	0.924
<b>CTER3.</b> You advise customers devoted and clearly.	0.895	0.945
<b>Cronbach's Alpha coefficient (CA): 0.956</b>		

Table 8 - Results of analyzing the reliability of creativity

Variable-total correlation		
Survey variables	Coefficient of correlation of total variables	CA coefficient when eliminating variables
<b>C1.</b> You have an idea for a new design or strategy for your startup.	0.953	0.952
<b>C2.</b> You tend to make a difference compared to other businesses.	0.931	0.958
<b>C3.</b> You like new directions in startup business.	0.938	0.956
<b>C4.</b> You can apply innovative technology and science to the start-up process in the medical industry.	0.877	0.974
<b>Cronbach's Alpha coefficient (CA): 0.970</b>		

Table 9 - Results of analyzing the reliability of ethical capacity and social responsibility

Variable-total correlation		
Survey variables	Coefficient of correlation of total variables	CA coefficient when eliminating variables
<b>EC1.</b> Your startup was established to serve the health of society.	0.959	0.968
<b>EC2.</b> Your startup business always adheres to ethical standards.	0.956	0.970
<b>EC3.</b> Your business is responsible to its employees, customers and the environment.	0.954	0.972
<b>Cronbach's Alpha coefficient (CA): 0.980</b>		

Table 10 - Results of analyzing the reliability of finding an opportunity

Variable-total correlation		
Survey variables	Coefficient of correlation of total variables	CA coefficient when eliminating variables
<b>FAO1.</b> You recognize opportunities that appear in the market.	0.932	0.966
<b>FAO2.</b> You find potential opportunities from customers and the market.	0.914	0.971
<b>FAO3.</b> There are always opportunities for startups in the market.	0.955	0.960
<b>FAO4.</b> Dynamic and diverse markets create more opportunities.	0.936	0.965
<b>Cronbach's Alpha coefficient (CA): 0.974</b>		

Table 11 - Results of analyzing the reliability of take advantage of opportunities

Variable-total correlation		
Survey variables	Coefficient of correlation of total variables	CA coefficient when eliminating variables
<b>TA1.</b> You can seize opportunities and turn them into success for the business.	0.900	0.963
<b>TA2.</b> You know how to plan to seize the opportunities available.	0.956	0.955
<b>TA3.</b> You always innovate scientific techniques to improve quality and refresh products.	0.923	0.960
<b>TA4.</b> You always prepare yourself with great knowledge about business.	0.940	0.957
<b>TA5.</b> You handle customer problems well.	0.842	0.973
<b>Cronbach's Alpha coefficient (CA): 0.969</b>		



As mentioned in table 9, within the *ethical capacity and social responsibility*, three elements are preserved when the required conditions are met.

Table 10 shows that in the *finding an opportunities* component maintains four elements when the required conditions are met.

Observing the information in Table 11, in the *take advantage of opportunities* component, the TA5 factor - You handle customer problems well - is excluded because the CA coefficient, when eliminating the variable (0.973), is larger than the current CA coefficient. The remaining four factors are retained when the required conditions are met.

Based on the findings presented in Table 12, within the *start-up intention* component, factor SI3 - "You want to operate and develop your own business" - is eliminated because its CA coefficient when removed (0.966) surpasses the current CA coefficient. The remaining five factors are retained when the required conditions are met.

### **Exploratory Factor Analysis (EFA)**

*EFA analysis for subsection factors in independent components:*

The extracted variance value was 93.130%, exceeding the 90% threshold. Simultaneously, the KMO coefficient = 0.921 ( $0.5 \leq \text{KMO} \leq 1$ ), and the significance level (Sig value) of the Bartlett test = 0.000 (meeting the condition of being less than

0.05). Ten groups of factors were extracted with an Eigenvalue = 2.081 ( $> 1$ ), all meeting the required conditions. Consequently, we proceeded with the EFA analysis for the subsection factors in the independent components.

Table 13 presents the results of the EFA analysis. The subsections were re-divided into 10 new factors based on the correlations between the subsections and the factors. Consequently, all variables retained after the EFA analysis meet the criterion of having a loading factor greater than 0.5, which indicates their practical significance and meaningful role.

### *Results of EFA exploratory analysis of dependent variables:*

The analysis results show satisfaction, with KMO = 0.917, Barlett's test with a Sig value = 0.000, an Eigenvalue = 4.412 ( $> 1$ ), resulting in the extraction of one factor. The total variance extracted = 88.235%, surpassing the 50% threshold, satisfy the condition. Consequently, EFA analysis was conducted on the observed variables of the dependent component "(SI): *Start-up intention*".

In Table 14, the factor rotation matrix indicates that 5 observed variables converge into a single factor group, with all observed variables having a Factor Loading  $> 0.5$ . Based on the EFA results for both independent and dependent variables, all factors meet the criteria for inclusion in correlation and regression analysis.

Table 12 - Results of analyzing the reliability of start-up intention

Variable-total correlation		
Survey variables	Coefficient of correlation of total variables	CA coefficient when eliminating variables
<b>SI1.</b> You want to create a new strategic startup in the medical field.	0.943	0.947
<b>SI2.</b> You are really serious about starting your own business.	0.833	0.959
<b>SI3.</b> You want to operate and develop your own business.	0.772	0.966
<b>SI4.</b> You never stop learning to start a successful business.	0.882	0.953
<b>SI5.</b> The process of starting a business will be difficult but you are determined to overcome it.	0.910	0.950
<b>SI6.</b> You want to run your own business.	0.935	0.948
<b>Cronbach's Alpha coefficient (CA): 0.961</b>		

[illegible][illegible]



Table 14 - Results of EFA exploratory analysis of the dependent variable

Component Matrix <sup>a</sup>	
	Component
	1
SI1	.967
SI6	.965
SI5	.944
SI4	.928
SI2	.890

### Results of confirmatory factor analysis CFA

Table 15 - The analytical results of testing the model's discriminant validity

CMIN/DF	GFI	CFI	TLI	RMSEA
4.980	0.817	0.950	0.945	0.069

The CFA results presented in table 15 and Figure 1 show that the model has favorable fit indexes: TLI= 0.945, CFI= 0.950, GFI= 0.817 ( $> 0.8$ ). The RMSEA=

0.069 ( $< 0.08$ ) and Chi-square/df= 4.980 ( $< 5$ ) indicate a good fit with the actual data. These results align with the criteria outlined by Hu et al in 1999 (16), which include both conventional and new alternatives for fit indexes in covariance structure analysis, reflecting the one-dimensionality of the scales.

### Results of testing the linear properties of the model SEM

Table 16 and Figure 2 present the following fit indexes: *Goodness of fit index (GFI)*: This value ranges from 0 to 1. The GFI result for the pricing model is 0.837, indicating a good fit; *Root Mean Square Error of Approximation (RMSEA)*: The RMSEA value is 0.066, which is considered satisfactory. Reports for RMSEA suggest that a value below 0.08, with a 95% confidence level, is acceptable; *Comparative fit index (CFI)*: The CFI value is 0.955, which is greater than 0.9, indicating a good fit. Higher CFI values reflect a better fit; *Tucker-Lewis Index (TLI)*: The TLI index value close to 1 indicates suitability. The model's TLI result is 0.950, which is considered good.

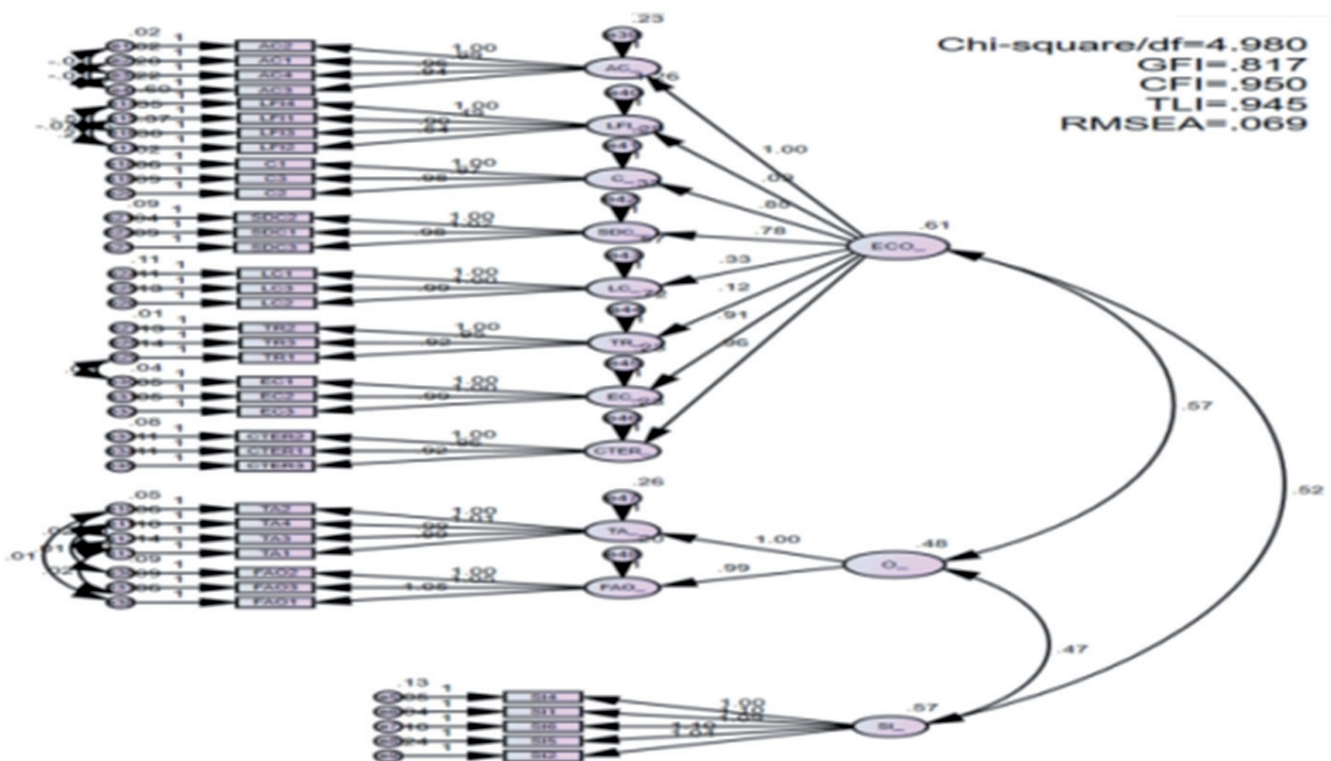


Figure 1 - Results of confirmatory factor analysis CFA

Table 16 - Results of SEM

CMIN/DF	GFI	CFI	TLI	RMSEA	p	AGFI
4.590	0.837	0.955	0.950	0.066	0.000	0.809



Figure 2 - Results of testing the linear properties of the model SEM

### Hypothesis testing

The results depicted in Table 17 illustrate the impact factors as follows: Entrepreneurial capacity factor and opportunities have a statistically significant impact on start-up intention, with significance levels  $<0.05$

Hypothesis H1: Entrepreneurial capacity factor (ECO) has a positive impact on start-up intention. Hypothesis H2: Opportunities (O) have a positive impact on start-up intention.

### Discussion

General Characteristics of Research Subjects. This study highlights key demographic findings: **Gender:** Females constitute 70.7% of participants, while males account for 29.3%. Prior research by Varghese et al. (17) suggests women are increasingly entrepreneurial, motivated by creativity and societal shifts towards gender equality, while Crant (18) emphasizes men's stronger entrepreneurial goals historically (19,20). **Occupation:** Pharmacists represent 74.7% of

Table 17 - Describe the results of hypothesis testing

			Estimate	S.E.	C.R.	P	Label
<b>O_</b>	<---	<b>ECO_</b>	.932	.032	28.961	***	H1: Accepted
<b>SI_</b>	<---	<b>O_</b>	.312	.135	2.310	***	H2: Accepted

participants, aligning with Khan et al.'s (21) findings that pharmacy and medical school graduates dominate entrepreneurial interests in healthcare (2, 11,21,22).

**Business Orientation:** Trading businesses are most common (48.6%). Entrepreneurs focused on power and achievement prioritize growth, while philanthropic values emphasize customer satisfaction and social responsibility (23,24). **Business Ownership:** Non-business owners comprise 70.7%. Alsos et al. (25) note experienced founders display stronger commitment and creativity, with Shane (26) linking entrepreneurial traits like risk acceptance and self-efficacy to business formation (23,26).

Factors Influencing Entrepreneurial Intentions in Healthcare. Entrepreneurship in healthcare is rising, requiring professionals to adopt an entrepreneurial mindset. Key factors include **Risk-Taking:** Embracing risks is critical for success, fostering innovation, growth, and market presence (27,28). **Information Searching:** Effective information collection and analysis enable better market understanding and risk mitigation (29). **Acumen:** Quick opportunity identification and decision-making are vital for minimizing risks and maximizing gains (30). **Entrepreneurial Leadership:** Strong leadership drives strategy, employee motivation, and business success (31). **Strategic Orientation:** Long-term vision and actionable plans guide startup success (32). **Relationship Building:** Maintaining trust with investors, partners, and customers provides a competitive advantage (33). **Creativity:** Transforming ideas into solutions enhances innovation and healthcare quality (34). **Ethics and Social Responsibility:** Upholding ethical principles ensures community-focused, transparent entrepreneurship (35). Healthcare professionals' entrepreneurial intentions begin with a vision to meet societal needs, leveraging their expertise to create competitive advantages through innovation and strategic planning (36,37). Future studies should broaden their scope to provide deeper insights into the factors influencing healthcare workers' entrepreneurial intentions, ensuring comprehensive and actionable findings.

## Conclusions

Based on the research results, it is evident that most medical staff surveyed recognize the importance of starting a business and have equipped themselves with relevant knowledge. However, some participants still lack understanding about startups. This highlights

the need for thorough research and education about startups before pursuing business ideas. According to the analyzed data, the study indicates that entrepreneurial capacity and opportunity factors influence startup intentions. Therefore, developing these factors for each medical staff member is crucial for successful startups. Measures should be implemented to support and foster the entrepreneurial spirit among healthcare professionals in the Mekong Delta and throughout Vietnam.

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## Riassunto

*Come la capacità imprenditoriale ed i fattori di opportunità influenzano l'intenzione del personale medico del Delta del Mekong di avviare un'impresa nel settore sanitario*

**Contesto.** L'imprenditorialità è sempre più riconosciuta come una soluzione alle sfide dell'economia di mercato, soprattutto nel campo medico.

**Disegno dello studio.** Lo studio ha utilizzato un metodo descrittivo trasversale con campionamento di convenienza per la raccolta dei dati.

**Metodi.** Lo studio ha utilizzato un campionamento casuale per convenienza basato su domande di output e in conformità con i criteri di campionamento per le province del Delta del Mekong. I dati sono stati analizzati con SPSS versione 20.0. Ciò è stato fatto calcolando il coefficiente Alpha di Cronbach e applicando il metodo di analisi fattoriale esplorativa per identificare i fattori principali, determinando così il set ufficiale di domande per lo studio. L'analisi fattoriale esplorativa è utilizzata per trovare la relazione tra variabili indipendenti e dipendenti, poiché queste variabili possono influenzare i risultati finali.

**Risultati.** *Genere:* le donne costituiscono il 70,7% dei partecipanti, mentre gli uomini costituiscono il 29,3%. *Occupazione:* la maggior parte dei partecipanti sono farmacisti, che rappresentano il 74,7% del campione. *Orientamento aziendale:* tra le attività d'interesse dei partecipanti, quelle commerciali rappresentano il 48,6%. I risultati CFA hanno indicato un buon adattamento del modello: indice Tucker-Lewis = 0,945; indice di adattamento comparativo = 0,950, indice di bontà di adattamento = 0,817 ( $> 0,8$ ), errore quadratico medio di approssimazione = 0,069 ( $< 0,08$ ) e discrepanza minima del chi quadrato divisa per gradi di libertà = 4,980 ( $< 5$ ), indicando un buon adattamento con i dati effettivi. I risultati della modellazione delle equazioni strutturali includono i seguenti indici di adattamento: discrepanza minima del chi quadrato = 4,590; indice di adattamento comparativo = 0,955; indice Tucker-Lewis = 0,950; indice di bontà di adattamento = 0,837; errore quadratico medio di approssimazio-

ne = 0,066; e indice di bontà di adattamento aggiustato = 0,809. Il fattore capacità imprenditoriale e le opportunità hanno un impatto statisticamente significativo sull'intenzione di avvio, con livelli di significatività <0,05.

**Conclusioni.** Sulla base dei risultati della ricerca, è evidente che la maggior parte del personale medico intervistato riconosce l'importanza di avviare un'attività e si è dotato di conoscenze pertinenti. Secondo i dati analizzati, lo studio indica che i fattori capacità imprenditoriale e le opportunità influenzano le intenzioni di avvio. Pertanto, sviluppare questi fattori per ogni membro del personale medico è fondamentale per le startup di successo. Dovrebbero essere implementate misure per supportare e promuovere lo spirito imprenditoriale tra i professionisti sanitari nel Delta del Mekong e in tutto il Vietnam.

## References

1. Bakheet AH. Relationship between attitudes and intentions for business start-up: a case of Omani university & college students. *Acad Entrep J*. 2018;**24**(2):1-10. Available from: [https://www.researchgate.net/publication/328353793\\_Relationship\\_Between\\_Attitudes\\_and\\_Intentions\\_for\\_Business\\_Startup\\_A\\_Case\\_of\\_Omani\\_Universities%27\\_Colleges%27\\_Students](https://www.researchgate.net/publication/328353793_Relationship_Between_Attitudes_and_Intentions_for_Business_Startup_A_Case_of_Omani_Universities%27_Colleges%27_Students).
2. Zanabazar A, Jigjiddorj S. The factors effecting entrepreneurial intention of university students: case of Mongolia. *J Contemp Issues Bus Gov*. 2021;**27**(1):2987-96. doi: 10.1051/shsconf/20207301034.
3. Skala A. The Startup as a Result of Innovative Entrepreneurship. In: *Digital Startups in Transition Economies*. 2019. p. 1-40. doi: 10.1007/978-3-030-01500-8\_1.
4. Farajzadeh F, Tourani S, Shabaninejad H. Determining the effective factors on developing entrepreneurial managers in the Iranian health system: A qualitative study. *J Educ Health Promot*. 2021 Dec 31;**10**:471. doi: 10.4103/jehp.jehp\_1654\_20.
5. Chakraborty I, Ilavarasan PV, Edirippulige S. Critical success factors of startups in the e-health domain. *Health Policy Technol*. 2023;**12**(3):100773. doi: 10.1016/j.hlpt.2023.100773.
6. Carpenter S. Ten steps in scale development and reporting: A guide for researchers. *Commun Methods Meas*. 2017;**12**(1):25-44. doi: 10.1080/19312458.2017.1396583.
7. Gerbing DW, Anderson JC. An updated paradigm for scale development incorporating unidimensionality and its assessment. *J Mark Res*. 1988;**25**(2):186-92. doi: 10.2307/3172650.
8. Hindle K. Formalizing the concept of entrepreneurial capacity. In: *At the crossroads of east and west, new opportunities for entrepreneurship and small business*. Proceedings of the ICSB World Conference 13th-15th June 2007, Turku, Finland. ICSB; 2007.
9. Alkhadim GS. Cronbach's alpha and semantic overlap between items: A proposed correction and tests of significance. *Front Psychol*. 2022 Dec 10;**13**:815490. doi: 10.3389/fpsyg.2022.815490.
10. Hair JF, Black WC, Babin BJ, Anderson RE. *Multivariate Data Analysis*. 6th ed. New Jersey: Pearson Prentice Hall; 2010.
11. Steenkamp J, Trijp HC. The use of LISREL in validating marketing constructs. *Int J Res Mark*. 1991;**8**(4):283-99. doi: 10.1016/0167-8116(91)90027-5.
12. Anderson JC, Gerbing DW. Structural equation modeling in practice: A review and recommended two-step approach. *Psychol Bull*. 1988;**103**(3):411-23. doi: 10.1037/0033-2909.103.3.411.
13. Jakobsen L, Wachter Qvistgaard L, Trettin B, Juel Rothmann M. Entrepreneurship and nurse entrepreneurs lead the way to the development of nurses' role and professional identity in clinical practice: A qualitative study. *J Adv Nurs*. 2021;**77**(10):4142-55. doi: 10.1111/jan.14950.
14. D'Souza N, Scahill S. The need to integrate in primary healthcare: Nurse identity constructions of pharmacists as entrepreneurs. *J Health Organ Manag*. 2020 Oct 6; ahead-of-print (ahead-of-print). doi: 10.1108/JHOM-01-2020-0009.
15. Silva VLD, Spigolon DN, Peruzzo HE, Costa MAR, Souza VS, Christinelli HCB, et al. Process of building an entrepreneurial career in Nursing. *Rev Esc Enferm USP*. 2023;**57**:e20230086. doi: 10.1590/1980-220X-REEUSP-2023-0086en.
16. Hu LT, Bentler PM. Cutoff criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives. *Struct Equ Modeling*. 1999;**6**(1):1-55. doi: 10.1080/10705519909540118.
17. Varghese T, Hassan A. Youth's entrepreneurial attitudes in Oman. *World J Soc Sci*. 2012 Nov;**2**(7):302-25.
18. Crant JM. The proactive personality scale as a predictor of entrepreneurial intentions. *J Small Business Management*. 1996 Jul;**34**(3):42.
19. Bernstein AT, Carayannis EG. Exploring the value proposition of the undergraduate entrepreneurship major and elective based on student self-efficacy and outcome expectations. *J Knowl Econ*. 2012;**3**:265-79. doi: 10.1007/s13132-011-0041-z.
20. Hatak I, Harms R, Fink M. Age, job identification, and entrepreneurial intention. *J Manag Psychol*. 2015;**30**(1):38-53. doi: 10.1108/JMP-07-2014-0213.
21. Khan MU, Ahmad A, Fayyaz M, Ashraf N, Bhagavathula A. Exploring the intentions of pharmacy students towards pharmacy ownership by using theory of planned behaviour. *BMC Res Notes*. 2016 Mar 22;**9**:183. doi: 10.1186/s13104-016-1996-4.
22. Elali W, Al-Yacoub B. Factors affecting entrepreneurial intentions among Kuwaitis. *World J Entrep Manag Sustain Dev*. 2016;**12**(1):18-34. doi: 10.1108/WJEMSD-07-2015-0029.
23. Sankar P, Sudha AI. Determinants of entrepreneurial intentions of pharmacy students in Chennai. *Int J Pharm Sci Rev Res*. 2016;**41**(1):150-4. Available from: [https://www.researchgate.net/publication/311791498\\_Determinants\\_of\\_entrepreneurial\\_intention\\_of\\_pharmacy\\_students\\_in\\_Chennai](https://www.researchgate.net/publication/311791498_Determinants_of_entrepreneurial_intention_of_pharmacy_students_in_Chennai).
24. Kolvereid L. Organizational employment versus self-employment: Reasons for career choice inten-



- tions. *Entrep Theory Pract.* 1996;**20**(3):23-31. doi: 10.1177/104225879602000302.
25. Alsos GA, Kolvereid L. The business gestation process of novice, serial, and parallel business founders. *Entrep Theory Pract.* 1998;**22**(4):101-14. <https://doi.org/10.1177/104225879802200405>.
  26. Shane S. Prior knowledge and the discovery of entrepreneurial opportunities. *Organization Science.* 2000 Jul-Aug;**11**(4):448-69. <https://doi.org/10.1287/orsc.11.4.448.14602>.
  27. Wakchaure N, Chawla R, Arora JS. Entrepreneurship in healthcare biotechnology. In: Barh D, editor. *Biotechnology in Healthcare*. Vol. 2. Academic Press; 2022. p. 343-53. doi: 10.1016/B978-0-323-90042-3.00006-2.
  28. Bonaventura M, Ciotti V, Panzarasa P, Liverani S, Lacasa L, Latora V. Predicting success in the worldwide start-up network. *Sci Rep.* 2020;**10**(1):345. Available from: <https://www.nature.com/articles/s41598-019-57209-w>.
  29. Ahmed F, Harrison C. Entrepreneurial leadership development in teams: A conceptual model. *Int J Entrep Innov.* 2022;**0**(0):1-13. doi: 10.1177/14657503221143977.
  30. Chakraborty I, Ilavarasan PV, Edirippulige S. Health-tech startups in healthcare service delivery: A scoping review. *Soc Sci Med (1982).* 2021;**278**:113949. doi: 10.1016/j.socscimed.2021.113949.
  31. Jacobson PD, Wasserman J, Wu HW, Lauer JR. Assessing entrepreneurship in governmental public health. *Am J Public Health.* 2015;**105** Suppl 2(Suppl 2):S318-22. doi: 10.2105/AJPH.2014.302388.
  32. Greenblatt WH. Proportion, type, and characteristics of physician entrepreneurship in Massachusetts. *JAMA Netw Open.* 2021;**4**(1):e2026938. doi: 10.1001/jamanetworkopen.2020.26938.
  33. Mishra A, Pandey N. Global entrepreneurship in healthcare: A systematic literature review and bibliometric analysis. *Glob Bus Organ Excell.* 2023;**42**(5):9-21. doi: 10.1002/joe.22193.
  34. Van Niekerk L, Claassens N, Fish J, Foiret C, Franckeiss J, Thesnaar L. Support factors contributing to successful start-up businesses by young entrepreneurs in South Africa. *Work.* 2024;**79**(1):339-350. doi: 10.3233/WOR-230527.
  35. Colichi RMB, Lima SGS, Bonini ABB, Lima SAM. Entrepreneurship and Nursing: Integrative review. *Rev Bras Enferm.* 2019;**72**(Suppl 1):321-30. doi: 10.1590/0034-7167-2018-0498.
  36. Itri JN, Ballard DH, Kantartzis S, Sullivan JC, Weisman JA, Durand DJ, et al. Entrepreneurship in the academic radiology environment. *Acad Radiol.* 2015;**22**(1):14-24. doi: 10.1016/j.acra.2014.08.010.
  37. Essounga YN. Entrepreneurship and a healthcare system in Africa: A theoretical reflection. *Transnat Corp Rev.* 2018;**10**(3):199-212. doi: 10.1080/19186444.2018.1507876.

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