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ENTREPRENEURIAL SUCCESS IN HIGHER EDUCATION: THE MEDIATING ROLE OF MOTIVATION

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Abstract

Entrepreneurship education is vital for fostering a new generation of innovators and driving economic growth. Understanding the intricate factors that contribute to students' entrepreneurial success and the pivotal role of motivation is critical to effective higher education programming. This quantitative study utilized Partial Least Squares Structural Equation Modeling (PLS-SEM) to examine the influence of personal, educational, and socioeconomic factors on students' entrepreneurial success, and the mediating role of entrepreneurial motivation. Data were collected from 400 undergraduate management students at Rajamangala University of Technology Thanyaburi using a validated five-point Likert scale questionnaire. Results indicate educational factors exert the strongest direct influence on entrepreneurial success. Critically, entrepreneurial motivation acts as a significant mediator, fully explaining the effects of personal and socioeconomic factors and partially mediating the effects of educational influences. The model demonstrated strong explanatory power for entrepreneurial success (72.9%) and motivation (39.2%). These findings offer valuable insights for higher education institutions, highlighting the need for integrated educational ecosystems that enhance curriculum, foster intrinsic motivation, and cultivate supportive environments to develop successful entrepreneurs in Asia.

Keywords: Entrepreneurial Motivation, Student Entrepreneurial Success, Educational Factors, Socioeconomic Factors, Personal Factors

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Introduction

In an era of rapid global transformation encompassing technological advancement, economic evolution, and social change, developing human resources with the potential to drive economic growth has emerged as a critical international concern (World Bank Group, 2021). Entrepreneurship has gained recognition as one of the primary mechanisms for fostering innovation, increasing employment opportunities, and stimulating sustainable economic development. The Organisation for Economic Co-operation and Development (OECD) emphasises that entrepreneurs play a crucial role in creating value for the global economy, particularly in developing countries that require rapid and sustainable growth (Organisation for Economic Co-operation and Development, 2019). In the Thai context, the government has prioritized promoting entrepreneurship through various policies, including Thailand 4.0, which focuses on innovation-based economic development. This initiative aims to cultivate a new generation of entrepreneurs equipped with knowledge and skills aligned with modern labor market demands and societal needs (Office of the National Economic and Social Development Council, 2017).

Higher education serves as a fundamental foundation for preparing students to become successful entrepreneurs. Universities worldwide, including those in Thailand, have reformed curricula and educational programs to develop entrepreneurial skills such as creativity, management capabilities, and risk management (Gibb, 2002). However, students' educational success in entrepreneurship continues to face numerous challenges, particularly within business administration faculties specializing in management fields with high potential for producing new-generation entrepreneurs. Preliminary surveys indicate that a significant number of students cannot achieve the educational success in entrepreneurship they expected (Smith & Beasley, 2011). This problem may stem from diverse factors, including personal elements such as self-confidence and management skills, educational factors such as curriculum quality and institutional support, and socioeconomic factors such as financial resource limitations or support networks (Shane, 2003).

At the institutional level, Rajamangala University of Technology Thanyaburi, which emphasizes producing graduates with practical skills ready for the labor market, has prioritized developing management students' educational success for entrepreneurship (Rajamangala University of Technology Thanyaburi, 2022). However, data from the Faculty of Business Administration reveal that the educational success rate of students pursuing entrepreneurial goals remains below optimal levels, with many students facing obstacles that prevent them from fully utilizing their academic knowledge in business ventures (Faculty of Business Administration, 2023). Previous entrepreneurship research has primarily focused on entrepreneurial traits or external factors such as economic environments (Hisrich & Peters, 2004; Timmons & Spinelli, 1994). However, few studies have examined the relationships among various factors and students' educational success in entrepreneurship, particularly in Thailand (Janwichian & Sirichote, 2023). This research gap highlights the need for an in-depth exploration of the factors affecting management students' educational success in entrepreneurship to understand the problem's causes and develop effective educational policies or programs that address student needs efficiently.

Literature Reviews

Educational Success for Entrepreneurship

Educational success in entrepreneurship refers to students' ability to achieve educational goals related to entrepreneurial readiness, encompassing the development of the skills, knowledge, and attitudes necessary to initiate and operate businesses successfully (Shane et al., 2003; Gibb, 2002). Educational success in entrepreneurship can be assessed by five main observable variables: business readiness after graduation, business plan quality developed during the

study, achievement in entrepreneurship courses, participation in entrepreneurial activities, and application of knowledge to entrepreneurship. Measurement employs a 5-point Likert scale, validated through content validity and reliability testing in accordance with quantitative research standards (Hair et al., 2017). Based on a review of concepts, theories, and research on factors influencing students' educational success in entrepreneurship education, these factors can be categorized into four main groups: personal factors, educational factors, socioeconomic factors, and entrepreneurial motivation.

Personal Factors

Personal factors are fundamental to entrepreneurial success. The main components include self-confidence, creativity, and management skills. Bandura (1997) explained that self-confidence is a positive belief and attitude individuals hold about their ability to manage various situations and achieve success. Creativity is a thought process that generates new and valuable ideas, approaches, or works (Amabile, 2018). Management skills refer to the ability to plan, organize, manage resources, and lead teams toward goals effectively (Katz, 1974). Measurement of personal factors has been developed from research by Stajkovic & Luthans (2003), who identified that self-confidence comprises four important dimensions: belief in abilities, decision-making courage, challenge orientation, and self-control. For measuring creativity, Amabile (2018) developed instruments that assess flexibility in thinking, fluency in idea generation, and the originality of concepts. Management skills are measured according to Katz's (1974) framework, which is divided into technical, human, and conceptual skills. Research by Carmeli et al. (2013) found that integrating all three personal factors significantly affects work performance, problem-solving ability, and innovation. Research by Costin et al. (2021), Oluwafunmilayo et al. (2018), and Rankhumise (2014) found that entrepreneurship education affects students' self-confidence, and Putri et al. (2024) found that family support and self-confidence levels affect interest in entrepreneurship.

Based on this empirical evidence, the following hypotheses were formulated: H1: Personal factors influence students' educational success in entrepreneurship education, and H5: Personal factors influence entrepreneurial motivation.

The summary of observable variables for measuring personal factors includes self-confidence, creativity, and management skills.

Educational Factors

Educational factors play a crucial role in shaping students' knowledge, skills, and experiences. The main components include curriculum quality, instructor and advisor support, cooperative education, practical experience, the effectiveness of teaching methods, and university support. Biggs & Tang (2011) proposed the concept of constructive alignment in the design of high-quality curricula, emphasizing the alignment of learning outcomes, teaching and learning activities, and assessment methods. Measurement of educational factors is based on multiple established frameworks. Curriculum quality is assessed using Biggs & Tang's (2011) constructive alignment principles. Faculty and advisor support for measurement aligns with Chickering & Gamson's (1987) framework for effective practice in undergraduate education. Cooperative education effectiveness is evaluated through Eames & Coll's (2010) integration model of theory and practice, while practical experience is assessed using Kolb's (1984) experiential learning cycle. Teaching method effectiveness is measured through student engagement indicators as proposed by Kuh et al. (2008), and university support is assessed through institutional resource provision and program availability. Chickering & Gamson (1987) emphasized the importance of faculty support in increasing student motivation and engagement. Tinto (2012) found that faculty academic support is significantly related to student retention and success. Research by Yang (2015) and Onikoyi & Odumeru (2020) indicated that entrepreneurship education and entrepreneurial motivation are key factors affecting entrepreneurial success. Kuh et al. (2008) found that the appropriate combination of

educational factors leads to student engagement, which is an important indicator of academic success.

Therefore, the following hypotheses were formulated: H2: Educational factors influence students' educational success in entrepreneurship education, and H6: Educational factors influence entrepreneurial motivation.

The summary of observable variables for measuring educational factors includes curriculum quality, instructor and advisor support, cooperative education, practical experience, effectiveness of teaching methods, and university support.

Socioeconomic Factors

Socioeconomic factors are components that influence opportunities and outcomes in individuals' lives. The main components include family environment, financial support, and social networks. Bronfenbrenner (1979) explained, through ecological systems theory, that the family is a microsystem that interacts directly and continuously with individuals, thereby shaping personality, values, attitudes, and behaviors. Measurement of socioeconomic factors is grounded in established theoretical frameworks. Family environment assessment uses Bronfenbrenner's (1979) ecological systems theory to measure microsystem influences, including family support, values, and entrepreneurial attitudes within the household. Financial support measurement draws from Becker's (1964) human capital theory and Dynarski & Scott-Clayton's (2013) framework, assessing the availability of financial resources, family economic status, and access to funding for educational and entrepreneurial pursuits. Social networks are measured using Lin's (2001) social capital theory and Granovetter's (1973) concept of the strength of weak ties, evaluating network diversity, connection quality, and access to business-related contacts and opportunities. Dynarski & Scott-Clayton (2013) pointed out that financial support affects opportunities and choices in life, especially in education and career. Social networks play an important role in accessing various resources and opportunities (Lin, 2001), with Granovetter (1973) finding that weak ties often lead to more employment opportunities than strong ties. Research by Ahmad & Xavier (2012) found that financial and social factors significantly affect business startup decisions. García-Rodríguez et al. (2022) and Rusmardi & Desi (2023) found that parental attitudes and school support are important factors that help children become more interested in entrepreneurship.

This led to the formulation of the following hypotheses: H3: Socioeconomic factors influence students' educational success in entrepreneurship education, and H7: Socioeconomic factors influence entrepreneurial motivation.

The summary of observable variables for measuring socioeconomic factors includes family environment, financial support, and social networks.

Entrepreneurial Motivation

Entrepreneurial motivation is a crucial factor that encourages individuals to start their own businesses. It can be divided into four main types: intrinsic motivation, extrinsic motivation, social motivation, and educational and knowledge motivation. Shane et al. (2003) explained that intrinsic motivation is an important factor in individuals becoming entrepreneurs despite the risks and uncertainties they face. Measurement of entrepreneurial motivation is based on comprehensive theoretical frameworks developed by Shane et al. (2003) and McClelland (1961). Intrinsic motivation is assessed through measures of personal satisfaction, enjoyment, and fulfillment derived from entrepreneurial activities. Extrinsic motivation is measured by external rewards such as financial gains, social status, and recognition. Social motivation evaluation examines the desire to contribute to society, help others, and create social value. Educational and knowledge motivation assessment measures the drive to learn, develop skills, and pursue intellectual growth through entrepreneurial experiences. McClelland (1961) found that individuals with high achievement motivation tend to choose the entrepreneurial path over becoming employees. Research by Rauch & Frese (2007) found that entrepreneurs with

characteristics such as innovation, risk-taking, and a high commitment to success tend to create businesses that grow and are more profitable. Carsrud & Brännback (2011) explained that entrepreneurial motivation is complex and influenced by multiple factors, affecting direction, commitment, and business success.

Therefore, the following hypothesis was formulated: H4: Entrepreneurial motivation influences students' educational success in entrepreneurship education.

The summary of observable variables for measuring entrepreneurial motivation includes intrinsic, extrinsic, social, and knowledge-based motivation.

The Role of Motivation as a Mediating Variable

Entrepreneurial motivation serves as a mediating variable between various factors and educational success in entrepreneurship education. Vroom's (1964) expectancy theory explained that motivation results from cognitive calculations in which individuals assess the likelihood that their efforts will lead to desired outcomes, thereby linking motivation to various factors. Kolb's (1984) experiential learning theory explained that effective learning occurs through a four-stage cycle, and motivation is an important component that makes the learning process applicable in practice. Bronfenbrenner's (1979) ecological systems theory and Coleman's (1988) social capital theory show that external factors influence behavior by shaping motivation. Research by Baum et al. (2001) found that entrepreneurial characteristics affect business success through mediating variables such as strategy, skills, and motivation, supporting the role of motivation as a mediating variable. Based on this theoretical and empirical evidence, the following hypothesis was formulated: H8: Entrepreneurial motivation mediates the relationship between personal factors and students' educational success in entrepreneurship education. H9: Entrepreneurial motivation mediates the relationship between educational factors and the educational success of students in entrepreneurship education.H10: Entrepreneurial motivation mediates the relationship between socioeconomic factors and the educational success of students in entrepreneurship education.

The literature review and empirical evidence above demonstrate the complex relationships among factors influencing students' educational success in entrepreneurship education, with entrepreneurial motivation playing a crucial role as both an independent and a mediating variable.

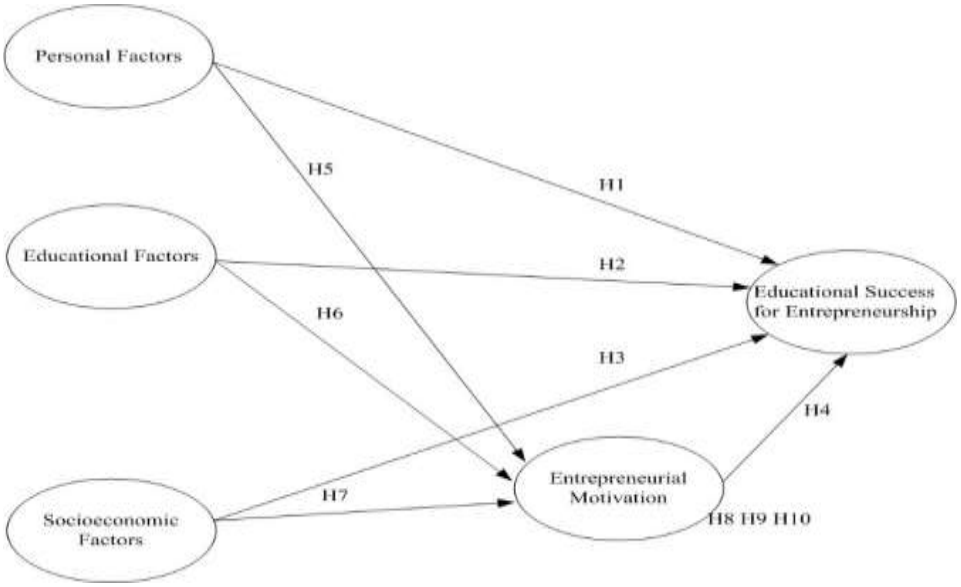

Figure 1 Conceptual Framework

Research Methodology

This study employed a quantitative research approach using a structured questionnaire to investigate factors influencing entrepreneurial success among undergraduate management students at Rajamangala University of Technology Thanyaburi. The population consisted of 806 students across four academic years, from which a stratified random sample of 400 students was selected, using academic year as the stratification criterion (first year: 108; second year: 110; third year: 83; fourth year: 99), based on proportional allocation. The sample size was determined according to PLS-SEM requirements, following Hair et al.'s (2011) recommendation of 10-20 times the maximum number of observed variables. The study contained 21 observed variables, with educational factors having the highest number. (6 variables), resulting in a minimum requirement of 120 respondents (6 × 20), though 400 were used to ensure adequate statistical power. The research instrument was a six-part questionnaire comprising 85 items: demographic information (5 items), personal factors with three dimensions (12 items), educational factors with six dimensions (24 items), social and economic factors with three dimensions (12 items), entrepreneurial motivation with four dimensions (16 items), and educational success for entrepreneurship with five dimensions. (20 items), all measured using a 5-point Likert scale (Likert, 1932) ranging from strongly disagree (1) to agree (5) strongly. The questionnaire was developed through synthesis of relevant theories and research rather than adopting existing instruments, with content validity confirmed through three experts using the Index of Item-Objective Congruence (IOC), achieving values of 0.67-1.00 for all 80 substantive items (exceeding the 0.50 threshold), and reliability established through a pilot study with 30 respondents, yielding Cronbach's Alpha coefficients of .949 for Personal Factors, .963 for Educational Factors, .963 for Social and Economic Factors, .979 for Entrepreneurial Motivation, and .970 for Educational Success for Entrepreneurship, all exceeding the 0.70 criterion (Hair et al., 2010). Data analysis was conducted using SmartPLS 4.0 software, employing Partial Least Squares Structural Equation Modeling (PLS-SEM) to examine both the measurement model and structural model (Hair et al., 2017), with the measurement model demonstrating excellent reliability and validity through Cronbach's alpha values above 0.83, composite reliability (rho_c) exceeding 0.88, Average Variance Extracted (AVE) values ranging from 0.605 to 0.811 (Fornell & Larcker, 1981), and discriminant validity confirmed through both Fornell-Larcker criterion and HTMT ratios below the 0.90 threshold (Henseler et al., 2015), while the structural model explained 72.9% of variance in entrepreneurial education success and 39.2% in entrepreneurial motivation, with hypotheses tested through bootstrapping procedures using 5,000 resamples at a 0.05 significance level (Hair et al., 2017) and reflective measurement models (Jarvis et al., 2003).

Research Results

This study investigated factors influencing educational success for entrepreneurship among 400 undergraduate management students using Partial Least Squares Structural Equation Modeling (PLS-SEM). The demographic analysis revealed that 60% of participants were female, with 60.5% aged 20-22 years, and participants were distributed across all academic years (27% first-year, 27.5% second-year, 20.75% third-year, and 24.75% fourth-year). Descriptive statistics indicated that students rated personal factors highly ($M = 3.75$, $SD = 0.70$). In contrast, educational factors received moderate ratings ($M = 3.39$, $SD = 0.66$). Both socioeconomic factors ($M = 3.61$, $SD = 0.68$) and entrepreneurial motivation ($M = 3.54$, $SD = 0.57$) were rated highly, with educational success for entrepreneurship achieving the highest mean score ($M = 3.85$, $SD = 0.51$).

Table 1 Heterotrait-Monotrait Ratio (HTMT) for Discriminant Validity Assessment

Constructs	1	2	3	4	5
1) Educational Factors					
2) Educational Success for Entrepreneurship	0.815				
3) Entrepreneurial Motivation	0.658	0.889			
4) Personal Factors	0.785	0.687	0.573		
5) Socioeconomic Factors	0.254	0.317	0.304	0.255	

Table 2 Fornell-Larcker Criterion for Discriminant Validity

Constructs	1	2	3	4	5
1) Educational Factors	0.851				
2) Educational Success for Entrepreneurship	0.714	0.778			
3) Entrepreneurial Motivation	0.601	0.800	0.866		
4) Personal Factors	0.707	0.590	0.510	0.901	
5) Socioeconomic Factors	0.225	0.274	0.269	0.221	0.892

Measurement Model Assessment

The measurement model demonstrated excellent reliability and validity, with all constructs showing Cronbach's alpha values above 0.83, composite reliability (rho_c) exceeding 0.88, and Average Variance Extracted (AVE) values ranging from 0.605 to 0.811. Discriminant validity was established through two complementary approaches. The Fornell-Larcker criterion (Table 2) demonstrates that all √AVE values (diagonal values in bold) range from 0.778 to 0.901, exceeding the corresponding inter-construct correlations in their respective rows and columns. Additionally, HTMT ratios (Table 1) range from 0.254 to 0.889, all below the 0.90 threshold, collectively confirming adequate discriminant validity among all constructs.

Structural Model Assessment

The structural model explained 72.9% of the variance in educational success for entrepreneurship and 39.2% of the variance in entrepreneurial motivation, demonstrating substantial predictive power. The hypothesis testing results are presented comprehensively in Table 3, which shows the outcomes for all ten research hypotheses, including direct effects (H1-H7), mediation effects (H8-H10), and total effects analysis.

Direct Effects Analysis: Among the direct relationships, entrepreneurial motivation demonstrated the strongest direct effect on educational success for entrepreneurship (H4: $\beta = 0.564$, $p < 0.001$), confirming its crucial role as a proximal predictor. Educational factors showed significant direct effects on both educational success in entrepreneurship (H2: $\beta = 0.318$, $p < 0.001$) and entrepreneurial motivation (H6: $\beta = 0.462$, $p = 0.000$), indicating a dual influence on the model. Personal factors (H5: $\beta = 0.154$, $p = 0.010$) and socioeconomic factors (H7: $\beta = 0.131$, $p = 0.001$) significantly influenced entrepreneurial motivation, while their direct effects on educational success for entrepreneurship were non-significant (H1: $\beta = 0.069$, $p = 0.093$; H3: $\beta = 0.035$, $p = 0.160$), suggesting full mediation through entrepreneurial motivation.

Mediation Effects Analysis: The mediation analysis revealed significant indirect effects for all three antecedent factors operating through entrepreneurial motivation. Educational factors showed the strongest indirect effect (H9: $\beta = 0.261$, $p < 0.001$), followed by personal factors (H8: $\beta = 0.087$, $p = 0.011$) and socioeconomic factors (H10: $\beta = 0.074$, $p = 0.002$). These findings confirm entrepreneurial motivation as a crucial mediating mechanism that channels the influence of contextual and individual factors toward educational outcomes.

Total Effects Analysis: When considering both direct and indirect pathways, educational factors emerged as the strongest overall predictor of educational success for entrepreneurship ($\beta = 0.579$, $p < 0.001$), followed by personal factors ($\beta = 0.156$, $p = 0.004$) and socioeconomic

factors (β = 0.109, p = 0.001). The substantial total effects indicate that, while some factors may limit direct relationships, their combined influence through mediation pathways creates meaningful impacts on educational outcomes.

Hypothesis Testing Summary: The analysis supported 8 out of 10 hypotheses, with H1 and H3 not supported due to non-significant direct effects, while their corresponding mediation hypotheses (H8 and H10) were supported. This pattern confirms full mediation by personal and socioeconomic factors and partial mediation by educational factors. The results demonstrate that entrepreneurial motivation serves as a critical mediating mechanism, transforming individual characteristics and contextual factors into educational outcomes in entrepreneurial contexts.

Table 3 Path Coefficient Analysis Results of the Structural Model: Direct, Indirect, and Total Effects

Hypothesis	Path between Variables	Direct Effect	Indirect Effect	Total Effect	p-value	Result
Direct Effects						
H1	Personal Factors → Educational Success for Entrepreneurship	0.069	-	0.069	0.093	Not Supported
H2	Educational Factors → Educational Success for Entrepreneurship	0.318	-	0.318	0.000	Supported
H3	Socioeconomic Factors → Educational Success for Entrepreneurship	0.035	-	0.035	0.160	Not Supported
H4	Entrepreneurial Motivation → Educational Success for Entrepreneurship	0.564	-	0.564	0.000	Supported
H5	Personal Factors → Entrepreneurial Motivation	0.154	-	0.154	0.010	Supported
H6	Educational Factors → Entrepreneurial Motivation	0.462	-	0.462	0.000	Supported
H7	Socioeconomic Factors → Entrepreneurial Motivation	0.131	-	0.131	0.001	Supported
Mediation Effects						
H8	Personal Factors → Entrepreneurial Motivation → Educational Success for Entrepreneurship	-	0.087	0.087	0.011	Supported
H9	Educational Factors → Entrepreneurial Motivation → Educational Success for Entrepreneurship	-	0.261	0.261	0.000	Supported
H10	Socioeconomic Factors → Entrepreneurial Motivation → Educational Success for Entrepreneurship	-	0.074	0.074	0.002	Supported
Total Effects Summary						
-	Personal Factors → Educational Success for Entrepreneurship (Total)	0.069	0.087	0.156	0.004	Significant
-	Educational Factors → Educational Success for Entrepreneurship (Total)	0.318	0.261	0.579	0.000	Significant
-	Socioeconomic Factors → Educational Success for Entrepreneurship (Total)	0.035	0.074	0.109	0.001	Significant

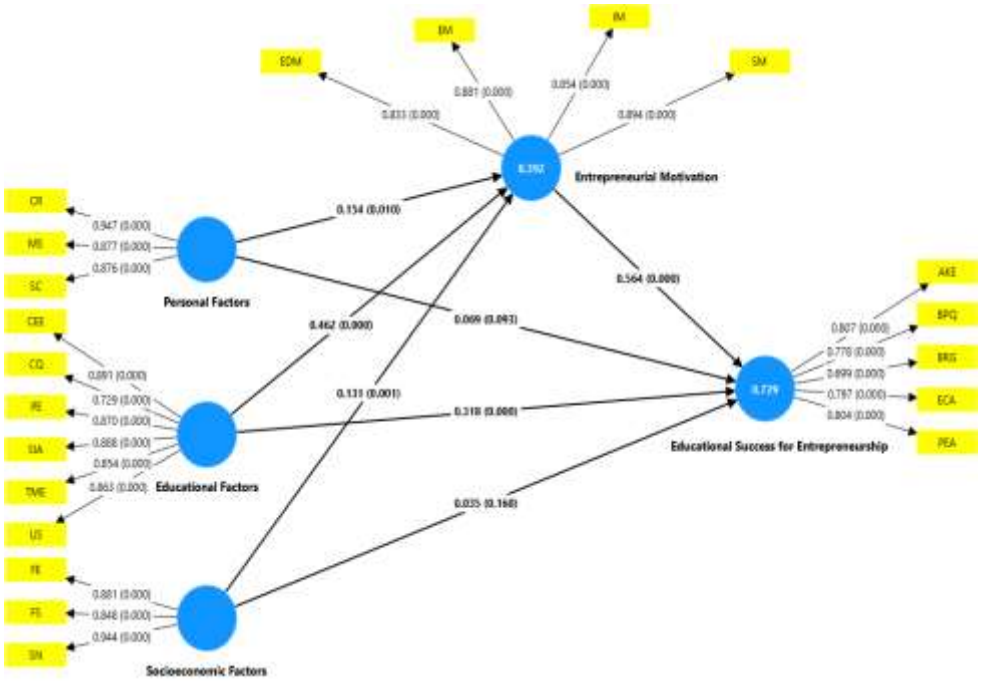

Figure 2 The Structural Model Showing Path Relationships Among Latent and Observed Variables

Conclusion and Discussion

This study employed a comprehensive structural equation modeling approach, utilizing PLS-SEM with 400 undergraduate business management students, to investigate the factors influencing educational success for entrepreneurship. The findings revealed that educational factors exerted the strongest total effect on entrepreneurial success ($\beta = 0.579$, $p < 0.001$). This substantial influence comprised both direct effects ($\beta = 0.318$) and significant indirect effects mediated through entrepreneurial motivation ($\beta = 0.261$), reinforcing prior research on the crucial role of educational quality in fostering entrepreneurial outcomes (Biggs & Tang, 2011; Kuh et al., 2008). Entrepreneurial motivation critically emerged as a mediating variable with the highest direct impact on educational success ($\beta = 0.564$, $p < 0.001$). It functioned as a complete mediator for personal factors (indirect effect $\beta = 0.087$, $p = 0.011$) and socioeconomic factors (indirect effect $\beta = 0.074$, $p = 0.002$), while serving as a partial mediator for educational factors. These results strongly support the theoretical frameworks proposed by Shane et al. (2003) and Carsrud & Brännback (2011), which underscore the central role of motivation in entrepreneurial behavior.

The model demonstrated exceptional explanatory power, accounting for 72.9% of the variance in educational success for entrepreneurship and 39.2% of the variance in entrepreneurial motivation. These predictive capabilities surpass those reported in most previous studies in this domain and exceed those of similar investigations (Hair et al., 2017). Furthermore, these findings align with established psychological theories such as Ajzen's Theory of Planned Behavior (1991) and Bandura's Social Learning Theory (1997). The study confirms that while individual characteristics like self-confidence and creativity (Carmeli et al., 2013), alongside socioeconomic environments including family support and financial resources (Dynarski & Scott-Clayton, 2013; Lin, 2001), are undoubtedly important, their influence on entrepreneurial success is primarily channeled through the cultivation of entrepreneurial motivation rather than through direct pathways.

Given these insights, higher education institutions are strongly urged to proactively develop integrated educational ecosystems specifically designed to cultivate and enhance students' entrepreneurial motivation. This necessitates a strategic curriculum redesign that emphasizes

experiential learning, integrates real-world business challenges into academic programs, and strengthens faculty-student mentorship relationships. Establishing business incubation centers within universities could further support and institutionalize this entrepreneurial ecosystem. More specifically, curriculum development and teaching methodologies should prioritize active learning approaches, practical projects, and case studies that simultaneously build essential entrepreneurial knowledge and foster intrinsic motivation. Concurrently, faculty development programs must focus on training educators to serve effectively as entrepreneurial mentors, guiding students through their entrepreneurial journeys.

To address the student dimension directly, targeted development programs are essential to enhance personal factors such as self-confidence, creativity, and crucial management skills. These initiatives could include structured mentoring programs, vibrant entrepreneurship clubs, and competitive business challenges that provide practical experience. Alongside this, robust policy and institutional support mechanisms are crucial for creating an environment conducive to entrepreneurial success. This entails developing systems to alleviate financial barriers through scholarships for entrepreneurially minded students and fostering strong partnerships with local business communities to expand students' social networks and opportunities for real-world engagement.

The successful implementation of these recommendations is expected to yield multiple positive impacts. In terms of student outcomes, it will significantly enhance students' entrepreneurial motivation, leading to improved educational outcomes and better preparation for future entrepreneurial careers. Regarding educational quality, comprehensive educational ecosystems will elevate overall educational quality by creating more relevant, engaging, and practical learning experiences. For economic development, an enhanced entrepreneurial education will contribute substantially to regional economic growth by producing graduates who are better equipped to launch and manage successful businesses. Ultimately, the long-term societal impact will be profound, fostering individuals who are more innovative, adaptable, and capable of creating value across diverse contexts.

For future research, it would be highly valuable to explore the temporal dynamics of the development of entrepreneurial motivation throughout students' academic careers. Investigating the long-term outcomes of graduates, particularly those with varying levels of quality in entrepreneurial education, could provide deeper insights into sustained impacts. Cross-cultural studies are also warranted to examine the generalizability of these findings across different educational systems and cultural contexts. Finally, longitudinal research tracking students from their educational journey through early career stages would offer crucial information on the sustained impacts of educational interventions on entrepreneurial success and career trajectories.

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