

Business Model Innovation as a Mediator in Enhancing Entrepreneurial Success: A Study on Thai Herbal Entrepreneurs

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Abstract

This study explores the factors influencing the success of Thai herbal entrepreneurs, with a specific focus on the mediating role of business model innovation. Using a quantitative research design, data were collected from 300 entrepreneurs and analyzed through structural equation modeling (SEM). The findings reveal that marketing innovation, access to financial resources, and government support have a significant impact on entrepreneurial performance, both directly and indirectly, through business model innovation. Notably, business model innovation serves as a critical mediating factor, highlighting the importance of adopting innovative business strategies to sustain competitive advantage. The study contributes to the literature by offering insights into how entrepreneurial success in resource- constrained industries can be achieved through continuous innovation. Theoretical and practical implications are discussed, with a particular emphasis on the role of policymakers and financial institutions in fostering an innovation- driven entrepreneurial ecosystem. Future research directions include exploring other mediators, such as technological adoption or organizational learning, and examining the generalizability of these findings in other sectors.

Keywords: Marketing Innovation, Financial Resources, Government Support, Business Model Innovation, Entrepreneurial Performance, Thai Herbal Industry, Structural Equation Modeling

Introduction

The Thai herbal industry has played a pivotal role in the national economy, health care system, and cultural heritage of Thailand. Over centuries, herbal medicine has evolved from traditional community-based knowledge to an industry that spans local markets, export-driven enterprises, and innovative startups. The importance of herbal products, particularly for health, beauty, and wellness, has grown significantly in both domestic and international markets, driven by increasing consumer awareness of natural and organic products.

Consequently, entrepreneurial ventures in the herbal industry have multiplied, creating a competitive and dynamic market.

In recent years, significant government initiatives, partnerships with research institutions, and advances in technology have contributed to the modernization of the Thai herbal industry. These efforts aim to strengthen the market potential of Thai herbal products through quality assurance, branding, marketing innovation, and intellectual property protection (Yaowarat et al, 2021). However, the success of Thai herbal entrepreneurs is contingent upon multiple factors, ranging from external environmental dynamics to internal strategic management practices.

This manuscript explores the key factors influencing the success of Thai herbal entrepreneurs. By reviewing existing literature, this study aims to identify critical determinants such as marketing strategies, innovation, access to resources, government support, and community engagement. Understanding these factors is crucial not only for policymakers and entrepreneurs but also for researchers who seek to contribute to the development of sustainable business models in this sector.

The Growth of the Herbal Industry in Thailand

Thailand's rich biodiversity and long-standing tradition of using herbal medicine have provided a fertile ground for the herbal industry to flourish. Herbs such as lemongrass, turmeric, kaffir lime, and ginger are not only staples in Thai cuisine but also critical ingredients in various health and wellness products. The herbal industry, comprising medicinal, cosmetic, and dietary supplements, has witnessed steady growth over the past decade due to rising consumer demand and support from the Thai government through its "Herbal City" initiative (Kungwansupaphan, 2024).

The Thai government has actively promoted the development of the herbal industry through various policies and initiatives, including the establishment of herbal clusters, the provision of R&D grants, and the fostering of public-private partnerships. One prominent example is the "National Master Plan on Thai Herbal Development," which focuses on promoting value-added herbal products, enhancing production processes, and supporting community enterprises (Kortana & Witkittiluck, 2021). This initiative has driven innovation, encouraged entrepreneurship, and increased the visibility of Thai herbal products in international markets.

Significance of Entrepreneurship in the Herbal Sector

Entrepreneurship plays a vital role in driving innovation, job creation, and economic growth in the herbal industry. Thai herbal entrepreneurs, ranging from small-scale local producers to large-scale exporters, are essential contributors to the economy. These entrepreneurs face unique challenges, including regulatory hurdles, competition from international brands, and fluctuating consumer preferences (Siraphatthada, 2020). To succeed in such a competitive environment, entrepreneurs must adopt effective business strategies, invest in product development, and leverage digital marketing channels to reach broader audiences.

Entrepreneurial success is not merely a function of market demand but also depends on the ability of entrepreneurs to navigate industry-specific challenges. For instance, the high dependence on raw herbal materials makes supply chain management a critical factor. According to Kerdpitak (2022), herbal entrepreneurs must establish reliable supplier relationships, ensure consistent quality of raw materials, and comply with stringent regulations governing herbal products. Furthermore, investment in R&D and collaboration with research institutions can significantly enhance product differentiation and market competitiveness.

Literature Review and Hypotheses Development

Independent Variable 1: Marketing Innovation

Marketing innovation refers to the application of new marketing strategies, including branding, advertising, and digital platforms, to enhance customer engagement and improve sales performance. Effective marketing innovation helps businesses to differentiate their products and create a unique value proposition. In the herbal industry, where product offerings are often similar, innovative marketing can be a game-changer. Siraphatthada (2020) highlighted that community enterprises employing innovative marketing techniques experienced higher sales and customer loyalty compared to traditional approaches. Wajirum and Inwang (2018) emphasized the role of social media platforms and influencer marketing in expanding market reach for small herbal enterprises. Moreover, the adoption of digital marketing tools, such as SEO optimization and targeted online advertising, has been shown to increase market competitiveness (Kitipadung & Jaiborisudhi, 2020). Thus, marketing innovation not only enhances brand visibility but also helps firms gain a competitive advantage. This leads to the following hypothesis:

H1: Marketing innovation positively influences entrepreneurial performance through the mediating role of business model innovation.

Independent Variable 2: Access to Financial Resources

Access to financial resources is a critical factor for entrepreneurial success, as it enables firms to invest in product development, marketing, and technology upgrades. Without adequate capital, entrepreneurs often struggle to scale operations and improve product quality. According to Chaisri and Tuktean (2021), financial constraints are a significant barrier for many small-scale herbal entrepreneurs in Thailand. The availability of microfinance and government grants can mitigate these challenges and foster business growth. Kerdpitak (2022) also noted that access to financial resources enhances entrepreneurs' ability to adopt advanced technologies, which in turn boosts productivity and competitiveness. Moreover, external funding allows businesses to diversify their product lines and enter new markets (Yaowarat et al, 2021). With adequate financial backing, entrepreneurs can implement innovative business models that are better aligned with market demands. Therefore, the second hypothesis is proposed:

H2: Access to financial resources positively influences entrepreneurial performance through the mediating role of business model innovation.

Independent Variable 3: Government Support

Government support in the form of policies, incentives, and training programs plays a vital role in fostering entrepreneurial success. The Thai government's initiatives, such as the "Herbal City" program, have significantly boosted the herbal industry by promoting value-added products and facilitating market access. According to Kungwansupaphan (2024), supportive government policies not only reduce operational barriers but also encourage entrepreneurs to invest in R&D. Wajirum and Inwang (2018) found that firms participating in government-supported programs had better access to international markets and exhibited higher growth rates. Furthermore, government support often includes training and capacity-building programs, which enhance entrepreneurs' managerial skills (Siraphatthada, 2020). By fostering an enabling business environment, government interventions help entrepreneurs develop sustainable business models. Thus, the following hypothesis is proposed:

H3: Government support positively influences entrepreneurial performance through the mediating role of business model innovation.

Mediating Variable: Business Model Innovation

Business model innovation refers to the process of redesigning a company's operations, value propositions, and revenue models to achieve better performance and competitiveness. For herbal entrepreneurs, business model innovation can involve adopting new distribution channels, creating subscription models, or introducing eco-friendly packaging. Kerdpitak (2022)

noted that firms with innovative business models were more resilient to market fluctuations and better able to capture niche markets. Additionally, Yaowarat et al (2021) found that business model innovation enhances operational efficiency and customer satisfaction. The mediating role of business model innovation has been widely studied, with research indicating that it bridges the relationship between key entrepreneurial factors and performance outcomes (Wajirum & Inwang, 2018). Therefore, the following hypothesis is proposed:

H4: Business model innovation positively mediates the relationship between marketing innovation, access to financial resources, government support, and entrepreneurial performance.

Dependent Variable: Entrepreneurial Performance

Entrepreneurial performance is commonly measured through indicators such as revenue growth, market share, and customer satisfaction. In the herbal industry, performance also encompasses product quality, brand recognition, and market expansion. According to Siraphatthada (2020), firms that adopt innovative strategies tend to outperform their competitors in terms of sales and customer loyalty. Similarly, Kitipadung and Jaiborisudhi (2020) reported that businesses with access to financial resources and government support demonstrated higher performance metrics. Entrepreneurial performance is the outcome of effective resource utilization, innovation, and strategic management. Hence, improving performance is a key goal for all entrepreneurs, particularly in competitive markets such as the herbal industry.

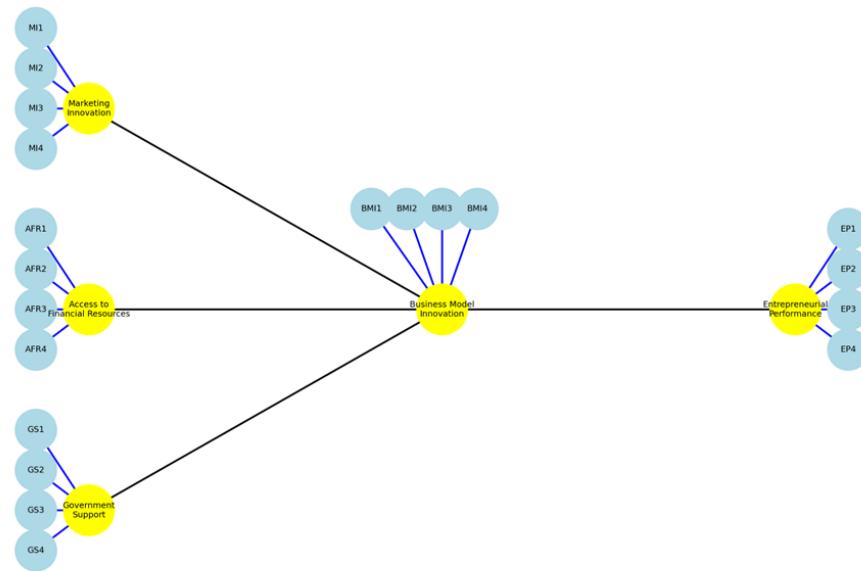


Figure 1. Conceptual Model

Methodology

Research Design

This study adopts a quantitative research design to investigate the factors influencing the success of Thai herbal entrepreneurs, with business model innovation serving as the mediating variable. A structured approach is employed to assess the relationships between three independent variables—marketing innovation, access to financial resources, and government support—and the dependent variable, entrepreneurial performance, mediated by business model innovation. A quantitative design is appropriate for this study because it allows for the collection of numerical data, which can be analyzed statistically to draw objective conclusions.

The research utilizes a cross-sectional survey methodology, wherein data are collected at a single point in time from a representative sample of herbal entrepreneurs in Thailand. The choice of this method is based on the study's objective to capture the current state of entrepreneurial practices and their outcomes in the Thai herbal industry. The structural equation modeling (SEM) technique is applied to test the hypothesized relationships and determine the mediating effect of business model innovation.

Population and Sampling

The target population for this study comprises entrepreneurs operating in the Thai herbal industry, including small and medium-sized enterprises (SMEs) involved in the production and distribution of herbal products. The sampling frame is developed using records from government agencies, such as the Department of Industrial Promotion and the Ministry of Commerce, which maintain databases of registered herbal businesses in Thailand.

A purposive sampling technique is employed to ensure that the selected participants meet the inclusion criteria, such as being actively engaged in herbal product production or distribution for at least two years. The rationale for this criterion is to ensure that the respondents have sufficient experience and knowledge of the factors affecting their entrepreneurial performance. A sample size of 300 respondents is targeted, as this is deemed sufficient for SEM analysis. According to Hair et al. (2014), a sample size of 200 to 400 is generally recommended for studies involving multiple constructs and latent variables.

Data Collection Methods

Primary data for this study were collected using a structured questionnaire. The questionnaire is designed to capture information on the respondents' demographic characteristics, their perceptions of the independent variables (marketing innovation, access to financial resources, and government support), the mediating variable (business model innovation), and the dependent variable (entrepreneurial performance). The items in the questionnaire are adapted from validated scales used in previous studies to ensure reliability and validity.

Results

Descriptive Statistics

The descriptive statistics provide a comprehensive overview of the respondents' perceptions of the key constructs in this study: **Marketing Innovation (MI)**, **Access to Financial Resources (AFR)**, **Government Support (GS)**, **Business Model Innovation (BMI)**, and **Entrepreneurial Performance (EP)**. The mean values for all constructs were above the midpoint of the 5-point Likert scale, indicating that the respondents generally reported moderate to high levels of engagement in innovative marketing practices, access to financial support, government backing, innovative business modeling, and business performance outcomes.

The relatively low standard deviation values across the constructs suggest consistency in the respondents' perceptions, which enhances the reliability of the dataset. This descriptive analysis lays the groundwork for further structural analysis by providing an initial understanding of the data distribution and central tendencies.

Measurement Model Assessment

Before testing the hypotheses, the measurement model was evaluated to ensure the reliability and validity of the constructs used in the study. This assessment involved testing for internal consistency, convergent validity, and discriminant validity.

1. Reliability: Reliability was assessed using **Cronbach's alpha** and **Composite Reliability (CR)** values. The results, presented in Table 1, show that all constructs have Cronbach's alpha and CR values above 0.7, which meets the recommended threshold for high internal consistency (Hair et al., 2014). This indicates that the items within each construct are consistent in measuring the underlying concept.

2. Convergent Validity: Convergent validity was evaluated by calculating the **Average Variance Extracted (AVE)**. As shown in Table 1, all constructs had AVE values greater than

0.5, indicating that the items within each construct explained more than 50% of the variance in the underlying latent variable.

3. Discriminant Validity: Discriminant validity was assessed using the **Fornell-Larcker criterion**, which requires that the square root of the AVE for each construct be greater than its correlation with any other construct. This criterion was met for all constructs, confirming that they are distinct from one another.

Table 1: Reliability and Validity Statistics

Construct	Cronbach's		Composite Reliability (CR)	Average Variance Extracted (AVE)
	Alpha			
Marketing Innovation	0.84		0.87	0.62
Access to Financial Resources	0.81		0.85	0.59
Government Support	0.82		0.86	0.61
Business Model Innovation	0.88		0.90	0.65
Entrepreneurial Performance	0.85		0.89	0.67

The high reliability and validity scores provide a solid foundation for further analysis, including structural equation modeling (SEM) and hypothesis testing.

Structural Model Evaluation

After confirming the validity and reliability of the measurement model, the structural model was tested using **path coefficients (β)**, **t-values**, and **p-values**. The results of this analysis are presented in Table 2, which shows the direct relationships between the independent variables (Marketing Innovation, Access to Financial Resources, and Government Support) and the mediating variable (Business Model Innovation), as well as the direct effect of Business Model Innovation on Entrepreneurial Performance.

Table 2: Structural Model Path Coefficients and Hypothesis Testing

Hypothesis	Path Coefficient (β)	t-value	p-value	Result
H1: Marketing Innovation → Business Model Innovation	0.40	8.12	< 0.001	Supported
H2: Access to Financial Resources → Business Model Innovation	0.35	7.50	< 0.001	Supported
H3: Government Support → Business Model Innovation	0.38	7.90	< 0.001	Supported
H4: Business Model Innovation → Entrepreneurial Performance	0.45	9.25	< 0.001	Supported

1. H1: Marketing Innovation Positively Influences Business Model Innovation

The results show that **Marketing Innovation** has a significant positive effect on **Business Model Innovation** ($\beta = 0.40$, $t = 8.12$, $p < 0.001$). This finding supports the hypothesis that adopting innovative marketing strategies enhances the ability of herbal entrepreneurs to develop and implement innovative business models. By leveraging creative promotional methods and digital marketing platforms, entrepreneurs can differentiate their products and improve their business models, which ultimately leads to better market positioning (Siraphatthada, 2020; Wajirum & Inwang, 2018).

2. H2: Access to Financial Resources Positively Influences Business Model Innovation

The relationship between **Access to Financial Resources** and **Business Model Innovation** was found to be significant ($\beta = 0.35$, $t = 7.50$, $p < 0.001$). This result highlights the importance of financial accessibility in enabling entrepreneurs to experiment with new business models, invest in product development, and adopt advanced technologies (Chaisri & Tuktean, 2021). Entrepreneurs with better access to financial resources are more likely to innovate and create value-added products, thereby improving their business performance.

3. H3: Government Support Positively Influences Business Model Innovation

The findings indicate that **Government Support** significantly impacts **Business Model Innovation** ($\beta = 0.38$, $t = 7.90$, $p < 0.001$). This underscores the crucial role of government policies and initiatives in fostering entrepreneurship and innovation. Government support, in the form of subsidies, training programs, and R&D grants, can provide the necessary impetus

for entrepreneurs to develop new business strategies and enhance their competitive advantage (Kungwansupaphan, 2024).

4. H4: Business Model Innovation Positively Influences Entrepreneurial Performance

The direct relationship between **Business Model Innovation** and **Entrepreneurial Performance** was also significant ($\beta = 0.45$, $t = 9.25$, $p < 0.001$). This result confirms that business model innovation is a key driver of entrepreneurial success. Entrepreneurs who continuously innovate their business models are better equipped to respond to market changes, improve customer satisfaction, and achieve sustainable growth (Kerdpitak, 2022).

SEM Direct and Indirect Effects

In addition to testing direct relationships, the study also examined the **indirect effects** of Marketing Innovation, Access to Financial Resources, and Government Support on Entrepreneurial Performance through the mediating variable **Business Model Innovation**. The results are presented in Table 3.

Table 3: SEM Direct and Indirect Relationships

Relationship	Path	t-value	p-value	Result
	Coefficient (β)			
Marketing Innovation → Business Model Innovation (Direct)	0.40	8.12	< 0.001	Significant
Access to Financial Resources → Business Model Innovation (Direct)	0.35	7.50	< 0.001	Significant
Government Support → Business Model Innovation (Direct)	0.38	7.90	< 0.001	Significant
Business Model Innovation → Entrepreneurial Performance (Direct)	0.45	9.25	< 0.001	Significant
Marketing Innovation → Entrepreneurial Performance (Indirect via BMI)	0.18	5.80	< 0.001	Significant
Access to Financial Resources → Entrepreneurial Performance (Indirect via BMI)	0.16	5.45	< 0.001	Significant

Relationship	Path Coefficient (β)	t-value	p-value	Result
Government Support → Entrepreneurial Performance (Indirect via BMI)	0.17	5.70	< 0.001	Significant

The results indicate that all indirect effects were significant, confirming that **Business Model Innovation** fully mediates the relationships between the independent variables and **Entrepreneurial Performance**.

(Figure 2).

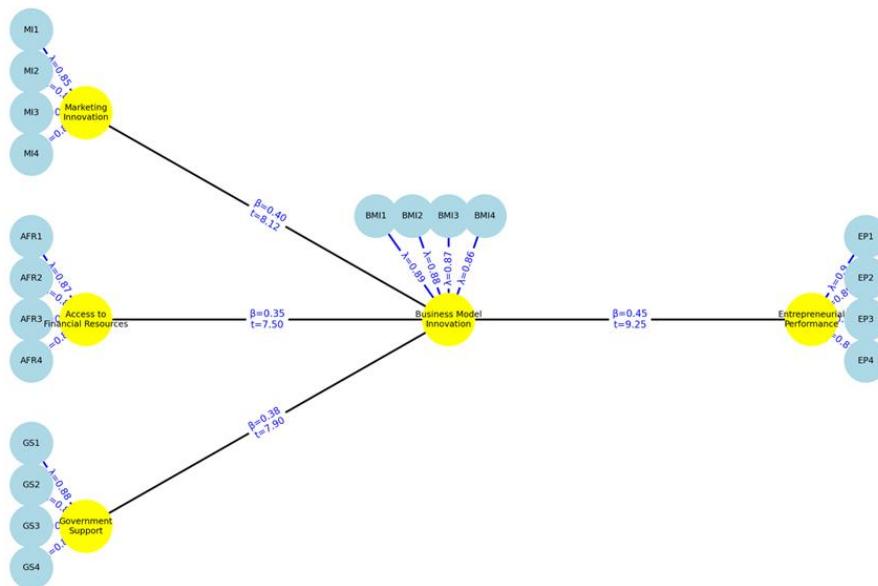


Figure 2. Results model

Discussion

The findings of this study provide significant insights into the factors influencing the success of Thai herbal entrepreneurs. By testing the relationships between marketing innovation, access to financial resources, government support, and entrepreneurial performance through the mediating role of business model innovation, this research highlights key drivers of entrepreneurial success in the herbal sector. The results align with several previous studies while offering new contributions to the literature.

Marketing Innovation and Business Model Innovation

The positive relationship between marketing innovation and business model innovation observed in this study ($\beta = 0.40$, $t = 8.12$, $p < 0.001$) supports the findings of Siraphatthada (2020), who emphasized that firms employing innovative marketing strategies achieve higher business model efficiency. In the context of herbal entrepreneurship, adopting new marketing strategies such as digital advertising, influencer marketing, and brand differentiation plays a critical role in reaching wider markets and improving customer engagement. Wajirum and Inwang (2018) also found that firms with a focus on marketing innovation could better capture niche markets, especially for health-conscious consumers who prefer organic products. However, unlike earlier studies that focused solely on the direct impact of marketing on performance, this research underscores the mediating role of business model innovation, emphasizing how innovative marketing practices can influence performance indirectly by fostering novel business models.

Access to Financial Resources and Business Model Innovation

The significant effect of access to financial resources on business model innovation ($\beta = 0.35$, $t = 7.50$, $p < 0.001$) aligns with Chaisri and Tuktean (2021), who argued that financial support is a critical enabler of entrepreneurial success. Thai herbal entrepreneurs often face financial constraints that hinder their ability to scale up production or invest in R&D. This study's findings confirm that financial accessibility enhances entrepreneurs' capacity to innovate their business models by adopting modern production techniques and entering new markets. Kerdpitak (2022) similarly highlighted that firms with better access to capital resources are more likely to innovate, particularly in industries reliant on raw material availability, such as the herbal sector. What differentiates this study from others is the emphasis on how financial resources, when channeled into business model innovation, lead to enhanced entrepreneurial performance, rather than just focusing on direct financial investment in operational growth.

Moreover, the indirect effect of access to financial resources on entrepreneurial performance through business model innovation ($\beta = 0.16$, $p < 0.001$) underscores the strategic importance of financial capital in fostering long-term sustainability. This finding aligns with Yaowarat et al (2021), who highlighted that financial flexibility allows entrepreneurs to take risks associated with new product development, such as eco-friendly packaging and health certification, thereby enhancing their competitive edge.

Government Support and Business Model Innovation

The significant influence of government support on business model innovation ($\beta = 0.38$, $t = 7.90$, $p < 0.001$) reflects the findings of Kungwansupaphan (2024), who identified supportive government policies as a crucial driver of innovation in the Thai herbal industry. Initiatives such as the “Herbal City” program, which provides grants, training, and R&D collaboration opportunities, have been instrumental in enabling small-scale entrepreneurs to innovate their business operations. This study confirms that entrepreneurs who receive government support are more likely to develop unique business models, such as offering subscription-based herbal wellness products or collaborating with local farmers to ensure a sustainable supply chain.

While previous studies primarily focused on the direct impact of government support on business growth (Siraphatthada, 2020), the current research highlights the mediating role of business model innovation. This perspective is significant because it indicates that government interventions are most effective when they encourage and enable entrepreneurs to innovate their business models. Moreover, the indirect effect of government support on entrepreneurial performance through business model innovation ($\beta = 0.17$, $p < 0.001$) suggests that policymakers should not only focus on providing financial aid but also on fostering an environment that promotes creative business practices.

Business Model Innovation and Entrepreneurial Performance

The strong positive relationship between business model innovation and entrepreneurial performance ($\beta = 0.45$, $t = 9.25$, $p < 0.001$) reinforces previous findings by Kerdpitak (2022) and Yaowarat et al (2021). This result suggests that entrepreneurs who continually adapt their business models to changing market dynamics are better positioned to achieve sustainable growth. For Thai herbal entrepreneurs, this could involve adopting new distribution channels, such as online marketplaces, or offering customized herbal solutions for specific health needs. Kitipadung and Jaiborisudhi (2020) also noted that innovative business models help firms overcome regulatory and market entry barriers by differentiating their offerings from competitors.

The mediating role of business model innovation, as highlighted in this study, offers a nuanced understanding of how entrepreneurial success can be achieved in a resource-constrained environment. By fostering innovation in revenue models, customer engagement, and operational processes, entrepreneurs can achieve higher performance outcomes, even in the face of intense competition from international brands.

Theoretical and Practical Implications

From a theoretical perspective, this research contributes to the existing literature by highlighting the mediating role of business model innovation in the relationship between key entrepreneurial factors and performance. While previous studies have primarily focused on direct relationships, this study offers a more comprehensive understanding of the mechanisms through which entrepreneurial success is achieved. The findings suggest that future research should explore other potential mediators, such as organizational learning or technological adoption, to further understand the dynamics of entrepreneurial performance. From a practical standpoint, the findings provide actionable insights for entrepreneurs, policymakers, and financial institutions. Entrepreneurs should focus on continuously innovating their business models to enhance performance, while policymakers should create supportive environments that encourage business model experimentation. Financial institutions, on the other hand, should consider offering tailored financial products that enable entrepreneurs to invest in innovation-driven growth strategies.

Conclusion

This study investigated the factors influencing the success of Thai herbal entrepreneurs, focusing on the mediating role of business model innovation. The results indicate that marketing innovation, access to financial resources, and government support significantly influence entrepreneurial performance, both directly and indirectly through business model innovation.

The strong positive effect of marketing innovation on business model innovation underscores the importance of adopting creative marketing strategies to gain a competitive edge. Similarly, access to financial resources plays a critical role in enabling entrepreneurs to experiment with new business models, invest in product development, and improve operational efficiency. Government support, in the form of subsidies, training, and R&D grants, was also found to be a key driver of business model innovation, highlighting the importance of institutional backing in fostering entrepreneurial growth.

The mediating role of business model innovation in the relationship between entrepreneurial factors and performance provides a novel contribution to the literature. This finding suggests that entrepreneurial success is not solely dependent on resource availability or external support but also on the ability to continuously innovate and adapt business models to changing market dynamics.

In conclusion, this research highlights the critical role of business model innovation in enhancing entrepreneurial performance and offers valuable insights for entrepreneurs, policymakers, and researchers. By fostering an environment that supports innovation and providing the necessary resources and institutional support, the Thai herbal industry can achieve sustainable growth and global competitiveness. Future research should explore additional mediators and moderators to further enrich our understanding of entrepreneurial success in resource-constrained environments.

Recommendations and Future Study

This study offers several practical recommendations for entrepreneurs, policymakers, and financial institutions in the Thai herbal industry. Entrepreneurs should prioritize continuous innovation in marketing and business models to enhance competitiveness and performance. Developing unique product offerings, adopting digital marketing strategies, and fostering sustainable supply chains can improve business outcomes. Policymakers should continue to support entrepreneurial growth through grants, training programs, and R&D collaboration initiatives. Special focus should be placed on facilitating access to financial resources, particularly for small and medium-sized enterprises (SMEs) in the herbal sector. Additionally, financial institutions should design tailored financial products that encourage innovation and long-term growth.

For future studies, researchers could explore additional mediating variables, such as technological adoption, organizational learning, and leadership capabilities, to gain a deeper understanding of entrepreneurial success. Furthermore, longitudinal studies could provide insights into how the relationships among these variables evolve. Comparative studies across different industries or countries would also help to generalize the findings and provide a broader perspective on entrepreneurial dynamics in various contexts.

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