ENTREPRENEURIAL DETERMINANTS OF SUCCESS IN SMALL-SCALE MUSHROOM ENTERPRISES: EVIDENCE FROM THE HAMBANTOTA DISTRICT OF SRI LANKA

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ABSTRACT

Mushroom cultivation is a promising enterprise in Sri Lanka, providing necessary nutrients for humans. However, the major elements impacting its growth as an enterprise remain underexplored, with little related studies being conducted. This study is to identify critical factors influencing the success of small- and medium-scale mushroom firms in Sri Lanka, including investment, marketing, access to resources, technological adoption, and training and skill development. The study aims to bridge the gap between technical production studies and business-oriented viewpoints on mushroom growing. The study used a mixed-method, cross-sectional design that included both quantitative and qualitative methodologies. A systematic questionnaire was distributed to 151 randomly selected mushroom growers in the Hambantota Divisional Secretariat. The data were analyzed using SPSS. The findings highlighted the importance of resource availability and market-oriented tactics by showing that marketing initiatives and resource access greatly improve business success. On the other hand, the impacts of investment, training, and technology adoption were negligible. By highlighting the value of resource-based and market-driven viewpoints over traditional inputs in small-scale agribusiness, the findings advance theory. In practice, authorities should concentrate on enhancing marketing capabilities and resource accessibility to boost sustainability and competitiveness. The cross-sectional design and regional emphasis of the study are among its limitations. To investigate more comprehensive factors and long-term effects on mushroom entrepreneurship, future studies should use longitudinal and intervention-based methodologies.

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1. Introduction

Mushroom cultivation presents significant opportunities for nutrition, income diversification, and small-scale farming globally and in Sri Lanka. Mushrooms are recognized as nutritious "super foods" that can address dietary diversity and food security challenges (Chand & Singh, 2022; Premarathne et al., 2025). For small-scale farmers, mushroom production offers a low-cost, high-return agricultural activity that utilizes farm by-products as raw materials, making it particularly suitable for marginal landowners with limited capital (Chand & Singh, 2022; Bijla, 2023). Sri Lanka possesses rich fungal diversity with approximately 53 recorded edible wild mushroom species, though most remain underutilized (Premarathne et al., 2025). Recent molecular characterization studies have identified six edible species, including new records for the country (Dasanthi et al., 2024). Promoting mushroom cultivation and commercialization could enhance rural livelihoods, contribute to economic development, and improve nutritional security (Premarathne et al., 2025; Bijla, 2023). However, challenges including technical knowledge gaps, inadequate infrastructure, and unorganized markets need addressing through research and policy interventions (Bijla, 2023). The Hambantota District in dry zone of Sri Lanka faces significant agro-ecological and socioeconomic challenges. Chena cultivation, a traditional slash-and-burn agricultural system, is extensively practiced in forested areas of Hambantota, with farmers earning an average annual income of Rs. 802,392.16 (Pramod et al., 2024). Major crops include sweet melon, green gram, long beans, and tomato, though cultivation faces substantial problems from wildlife damage (87.5%), marketing issues (67.5%), and drought (30%) (Pramod et al., 2024).

Research on Sri Lankan agricultural SMEs reveals significant challenges and opportunities in the mushroom cultivation sector. SMEs in Sri Lankan agricultural sector face competitive pressures, with success determined by factors including innovation in product and marketing, strategic market location, and marketing efficiency, while traditional factors like specialization and R&D experience show less significance in developing country contexts (Prasanna et al., 2021). Key success factors for SMEs include personal values, knowledge management, skilled labor availability, and access to finance, though government support plays a limited role (Navarathne, 2023). Mushroom farming presents particular challenges, as farmers often fail to achieve optimal yields due to inefficiencies in manual cultivation methods (Surige et al., 2021). However, technological solutions show promise, with IoT-based monitoring systems demonstrating high accuracy in environmental monitoring (89%), harvest time detection (92%), disease detection (99%), and yield prediction (97%) (Surige et al., 2021; Punsala et al., 2023).

Research on SMEs in southern regions of Sri Lanka reveals significant challenges affecting agricultural enterprises, including mushroom cultivation. In Hambantota District, manufacturing SMEs demonstrate that innovativeness and proactiveness significantly impact business performance, with innovativeness being the most crucial factor for success (Gamage, 2015). However, mushroom cultivation specifically faces substantial barriers in Sri Lanka, including lack of technological know-how, limited awareness of economic benefits, and inadequate market development (Gamage & Ohga, 2018). Broader SME sustainability issues in the Southern Province include inadequate financial management, limited technological

support, and restrictive legal policies, contributing to a 53% failure rate (Haresankar et al., 2018).

Although mushroom farming is becoming more widely acknowledged as a viable agribusiness in many areas, current research focuses mostly on technical elements of production, such as cultivation methods and yield optimization. There is a remarkable lack of empirical study on how the broader enterprise development viewpoint influences the success of small-scale mushroom growers. This study fills that gap by combining several aspects such as investment, marketing, resource access, technological adoption, and training into a single framework for assessing firm success. This study is unique in that it focuses on small-scale producers and uses quantitative analysis to determine the relative influence of each factor, providing actionable insights for policymakers, development agencies, and entrepreneurs looking to scale mushroom cultivation as a sustainable rural enterprise.

This study aimed to assess small-scale mushroom growers and identifying the factors affecting the development of mushroom cultivation as an enterprise. Research on mushroom production in Sri Lanka identifies numerous important gaps and obstacles that continue to hinder the growth and development of industry. This study is specially relevant since it seeks to identify and emphasize the essential aspects that can lead to increased mushroom production in the chosen location, while also providing insights that may be applicable to the larger context of Sri Lankan agricultural sector.

2. Literature review and theoretical framework

2.1. Investments

Successful mushroom farming relies heavily on investments since they offer the capital required to set up and maintain production systems (Devochkina et al., 2024). Having enough money enables farmers to build climate-controlled buildings, buy sterilizing supplies, and keep up with transportation and storage infrastructure which is important to success in production. Investments also give growers access to better substrate materials and certified spawns, both of which increase production (Sharma et al., 2025). Additionally, financial assistance makes it easier to expand into value-added operations like processing, drying, and packaging (Rupasingha et al., 2018).

The study examined several key dimensions to assess the relationship between investment and the success of mushroom enterprises such as expenditure on equipment and machinery, procurement of raw materials and inputs, labor costs, marketing and distribution efforts, and infrastructure development. An examination of sixty mushroom firms in Karnataka found that equipment investment, along with enterprise scale, social capital, and cultivation practices, had a significant impact on overall business success, highlighting the critical role of machinery and tools in enterprise development (Shirur et al., 2018). However, the procurement of raw materials remains a major constraint for growers across different scales of operation, with challenges such as limited supply, rising prices of essential inputs like rice straw, and poor-quality spawn particularly evident in regions like Nepal, although in favorable cultivation conditions (Muyal et al., 2018; Raut, 2019). Labor costs also significantly affect enterprise sustainability, as they account for nearly 50% of total operational expenses, with harvesting

being the most labor-intensive phase (Kashkoush & Avigad, 2018). In terms of marketing, the choice of distribution channels greatly influences profitability and market visibility, with direct producer-to-retailer models (Channel-2) emerging as the most preferred and effective approach for improving customer access (Mahajan & Thakur, 2025). Finally, infrastructure development is a vital component of investment, as confirmed by a subsequent Principal Component Analysis which identified infrastructure as one of the critical dimensions influencing the success of mushroom entrepreneurship (Shirur et al., 2019).

H1: Investments in mushroom farming have a positive effect on the success of mushroom enterprises.

2.2. Marketing efforts

The success of mushroom production is greatly influenced by efficient marketing techniques, which create close connections between growers and consumers (Koundal and Kumar, 2024). Because of their perishable nature, mushrooms require dependable distribution networks and marketing initiatives to guarantee timely distribution and increase demand (Sharma et al., 2024). Marketing initiatives like labelling, packaging, and branding not only increase value but also provide consumer identification and trust. Participation in supermarkets, local fairs, and export-focused trade programs also helps farmers reach a wider market, stabilize prices, and lessen their reliance on middlemen (Rahman et al., 2022).

To assess the relationship between marketing efforts and the success of mushroom enterprises, the study observed several key dimensions, including branding and packaging, distribution channels, promotions and offers, public relations and media, and consumer feedback and reviews. Comprehensive branding and packaging interventions have been shown to result in measurable business improvements such as increased sales turnover, broader market reach, enhanced product differentiation, and greater competitiveness in relation to established products (Irawan & Affan, 2020). Distribution channel strategies also play a critical role, directly influencing both competitive advantage and entrepreneurial success, with competitive advantage acting as a partial mediator in this relationship (Setiyanto et al., 2024). Sales promotions, particularly when combined with strong product quality and effective distribution, have been found to significantly boost oyster mushroom sales, as demonstrated in the case of North Sumatra, Indonesia (Agustini et al., 2021). Moreover, public relations and mass media involvement, along with frequent contact with agricultural extension services, are positively correlated with entrepreneurial behavior among mushroom growers, indicating the value of media engagement in enterprise development (Shirur et al., 2017; Nagar et al., 2023). Lastly, consumer feedback and reviews are directly and significantly associated with enterprise success, as positive customer reviews enhance trust and credibility, thereby serving as powerful marketing tools that influence potential buyers (Moxley et al., 2022).

H2: Marketing efforts positively influence the success of mushroom enterprises.

2.3. Training and skill development

Providing farmers with the technical know-how needed for efficient mushroom cultivation requires training and skill development (Kavitha et al., 2019). The specialized procedures involved in cultivation, including substrate preparation, spawn injection, environmental management, and pest and disease control, call for the right information and practical experience (Carrasco et al., 2021). Farmers can increase productivity and decrease losses by participating in training programs provided by universities, private organizations, or agricultural extension services. Innovation is also aided by skill development, which permits farmers to experiment with new methods and value-added opportunities (De Silva and Wijeratne, 2021).

To assess the relationship between training and skill development and the success of mushroom enterprises, the study examined several key dimensions, including cultivation techniques, harvesting and post-harvest handling, business management, food safety and quality standards, and entrepreneurial skills. The importance of advanced cultivation techniques is well illustrated by Korean mushroom industry, which has successfully adopted innovative methods such as shelf cultivation using fermented rice straw and bottle cultivation systems. These advancements enabled mass production and significantly contributed to export growth (Jang et al., 2016). In addition to cultivation, implementing comprehensive pre- and post-harvest strategies within sustainable production systems is critical for optimizing yield, improving quality, and ensuring the long-term viability of the industry (Silva et al., 2024). Effective business and agribusiness management also play a key role, as demonstrated by Rusadi et al. (2015), who found a strong positive relationship between agribusiness management practices and the success of oyster mushroom enterprises, with agribusiness development emerging as the most influential management indicator. Furthermore, quality management performance in mushroom enterprises depends heavily on technical capacity, control systems, and implementation effectiveness, with the proactive involvement of practitioners being essential to achieving desired outcomes (Zhou et al., 2018). Finally, entrepreneurial skills are equally vital, as confirmed by Shirur et al. (2019), whose principal component analysis revealed that entrepreneurial behavior is a critical psychological factor influencing enterprise success, while measurable performance indicators serve as key physical attributes contributing to overall business outcomes.

H3: Training and skill development positively contribute to the success of mushroom enterprises.

2.4. Access to resources

The sustainability and productivity of mushroom farming are significantly influenced by the availability of necessary resources. Having access to organic substrates, water, energy, and high-quality spawn is essential for preserving ideal growing circumstances (Manvir et al., 2025). Furthermore, farmers are able to invest in the technologies and inputs they require thanks to financial resources like credit and subsidies (Bhushan et al., 2019). Extension services and consulting programs are examples of institutional resources that enhance farmers' ability

to handle production difficulties. Maintaining consistent availability to these resources lowers production risks and boosts efficiency, which in turn encourages more farmers to grow mushrooms (Raji et al., 2024).

To assess the relationship between access to resources and the success of mushroom enterprises, the study explored several key dimensions such as land availability and location, raw materials and growing medium, water supply, capital and financial resources, and market access. Land holding was found to have a positive and significant correlation with agripreneurial behavior in both successful and discontinued mushroom enterprises, highlighting its role in enterprise development (Nagar et al., 2023). The quality and composition of the growing medium also play a critical role by directly influencing production outcomes such as mycelium growth, harvest weight, and the nutritional content of oyster mushrooms (Fitriani et al., 2022). Furthermore, access to a reliable water supply is essential, with research showing that efficient delivery methods like drip irrigation significantly enhance productivity and profitability by increasing yields, improving quality, and reducing labor costs associated with harvesting (Navarro et al., 2020). In terms of financial resources, studies on capital mix indicate that financial capital alongside social and human capital contributes meaningfully to the success of micro-enterprises, particularly among women entrepreneurs (Hameed et al., 2020). Lastly, market access is a crucial determinant of enterprise success. As Rantšo (2015) emphasized, small-scale enterprises that lack access to markets, infrastructure, and government support often struggle to achieve sustainability, underscoring the importance of a well-connected market environment for long-term viability.

H4: Access to resources has a positive impact on the success of mushroom enterprises.

2.5. Technological adoption

The success of mushroom production has been substantially increased by the use of contemporary technology, which increases productivity, lowers hazards, and boosts profitability (Devochkina et al., 2024). Modern environmental control systems for ventilation, humidity, and temperature enable consistent quality and year-round manufacturing (Alam et al., 2023). Improvements in disease control, spawn development, and substrate sterilization lower production losses and boost yields. Additionally, farmers can better interact with markets and manage crop operations thanks to digital technologies and information systems. Adoption of technology also promotes scalability, enabling small-scale firms to grow into larger businesses (Manvizhi et al., 2025).

The study investigates some dimensions to assess the relationship between technological adoption and the success of mushroom enterprises, which include climate control systems, monitoring and data management, automated sterilization and pasteurization, sustainable energy solutions, and innovations in spawn production. IoT-based automatic climate control systems have been shown to optimize cultivation by maintaining ideal temperature (20–30°C) and humidity (70–80%) levels, improving efficiency and productivity while reducing costs and labor (Ariffin et al., 2020). Complementing this, data-driven monitoring systems enhance decision-making for harvest timing, disease detection, and quality assurance, further boosting profitability (Moysiadis et al., 2023).

However, technology adoption remains uneven, with barriers such as limited awareness, inadequate training, and insufficient financial resources hindering progress among many growers (Sahu et al., 2023). On the sustainability front, the integration of renewable energy, particularly solar energy, supports net-zero energy operations by stabilizing power supply and enhancing reliability and output (Pasapuleti et al., 2022). Additionally, spawn production continues to pose significant challenges, specially in developing regions where technologies from high-resource settings have yet to be effectively adapted for local, resource-constrained environments (Higgins et al., 2017).

H5: Technological adoption positively affects the success of mushroom enterprises.

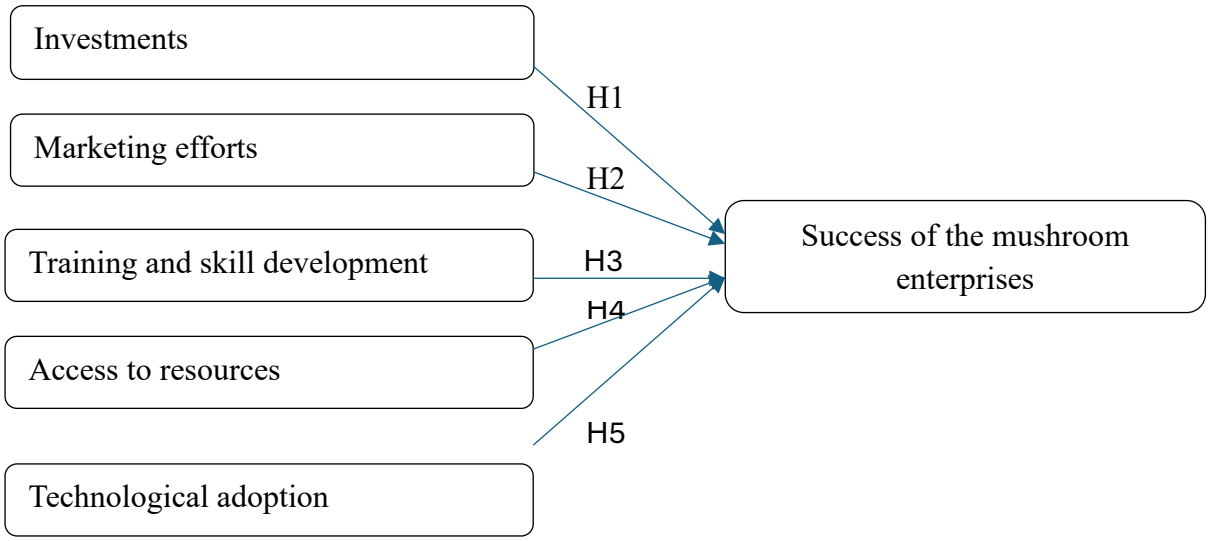


Figure 01: Research Framework with Hypothesis

3. Methodology

3.1 Research design

This study employed a mixed-approaches strategy, which combines quantitative and qualitative methods in an explanatory, cross-sectional research design. The success of mushroom enterprises (dependent variable) was tested by the quantitative strand, which examines hypothesized correlations between marketing initiatives, training and skill development, investments, resource accessibility, and technological adoption (independent variables).

3.2 Study area

The research conducted in the Southern Province of Sri Lanka, specifically in the Hambantota District, at the Hambantota Divisional Secretariat (DS) Division. Because of its ideal climate, abundance of agricultural byproducts (like paddy straw and other organic matter), and rising interest from small and medium-sized farmers, Hambantota has been recognized as a region with significant potential for agricultural diversification, including mushroom cultivation. Because it represents both new and existing farming businesses that support rural

livelihoods and local economic development, the DS division also offers an appropriate backdrop for researching the prospects and difficulties of mushroom cultivation.

3.3 Population and sampling

The target population for this study comprises all small- and medium-scale mushroom producers operating within the Hambantota DS Division. Small-scale producers are typically household-level cultivators who use limited infrastructure and traditional methods, while medium-scale producers have relatively larger operations, some degree of technological adoption, and more structured market participation. The information for this study was gathered from 151 randomly selected mushroom producers from the Hambantota Divisional Secretariat. A simple random sampling strategy was used to ensure that each farmer had an equal chance of being included in the study, reducing selection bias and enhancing sample representativeness. The chosen sample size is regarded suitable for statistical analysis, as it gives sufficient variety to investigate the relationship between the variables.

3.4 Data collection

A well-structured, pre-tested questionnaire created specially for this study was used as the main tool for data collection. The questionnaire was prepared by the research group. The questionnaire was divided into two main sections. The first section collected demographic and socioeconomic data from the respondents, while the second section included items intended to gather information on the independent variables (marketing, training and skill development, investments, access to resources, and technological adoption) and how they relate to the dependent variable, which is the success of mushroom enterprises. A five-point Likert scale was used to measure six criteria (variables) with agreements by the respondents, ranging from strongly disagreed (-2) to strongly agreed (+2). The numerous facets of mushroom success were captured by the methodical framework of the dimensions, indicators, and questions. Before distributing the survey to the entire sample, the pre-testing procedure made sure the questions were legitimate, dependable, and clear. The questionnaire consisted of questions related to the variables. For the investment variable, an illustrative questionnaire item was, *"Investing in equipment and machinery has improved production efficiency."* For the training and skill development variable, an example item stated, *"New technologies have been utilized to enhance mushroom production."* With respect to access to resources, a representative question was, *"Access to financial resources has significantly influenced the success and growth of my mushroom business."* For the technological adoption variable, the example item was, *"The use of climate control methods has increased the yield and quality of my mushroom cultivation."* Finally, for the marketing efforts variable, an example item included, *"The quality of mushroom products has improved through effective branding and packaging."*

3.5 Data analysis

Descriptive analysis was employed to summarize and present the demographic and socio-economic characteristics of the respondents, providing a clear profile of the sample population. The reliability of the questionnaire was assessed using Cronbach's alpha, with a threshold value of 0.70 or higher, considered acceptable to ensure internal consistency and effective measurement of constructs. Correlation and regression analysis were then employed to examine the relationships among the six dimensions (variables) under investigation. All statistical analyses were carried out using IBM SPSS Statistics version 26, which facilitated the application of precise and efficient analytical techniques and enabled comprehensive insights into the factors influencing the success of mushroom enterprises. To further assess the proposed model, correlation analysis was initially applied to determine the strength and direction of associations between the independent and dependent variables and to formally test the research hypotheses.

4. Results

4.1 Demographic and socio – economic status of the entrepreneurs

Table 1 indicates the selected socio and economic status of the selected respondents with their frequency levels and percentage levels.

Table 1: Socio Economic Background of the Respondents

Variable category	Variable levels	Frequency	Percentage
Gender	Male	28	18.5
	Female	123	81.5
Age (Years)	16-25	7	4.6
	26-35	18	11.9
	36-45	63	41.7
	46-55	49	32.5
	56-65	14	9.3
Education Levels	No school education	0	0
	Up to grade 5	3	2.0
	Up to O/L	66	43.7
	Up to A/L	74	49.0
	Higher Education	8	5.3
Household size	1	4	2.6
	2	55	36.4
	3	26	17.2
	4	7	4.6
	5	15	9.9
	6	18	11.9
	7	19	12.6
	8	3	2.0
	9	4	2.6

Total income from mushroom cultivation (LKR)	Lower than Rs. 25,000	89	58.9
	Rs. 25,000 - Rs. 50, 000	41	27.2
	Rs. 50,000 - Rs. 75,000	13	8.6
	Higher than Rs. 75,000	8	5.3
Mushroom cultivar	Oyster mushroom	65	43.1
	Abalone mushroom	13	8.6
	Oyster and abalone mushroom	46	30.5
	Other	27	17.9

Source: Survey Data

According to table 1, the majority of mushroom farmers surveyed were female (81.5%), with only 18.5% male participants, indicating strong female participation in the sector. Most respondents were within the 36–55 age group (74.2%), reflecting that mushroom cultivation is primarily undertaken by middle-aged farmers. In terms of education, the highest proportion had studied up to A/L (49.0%) and up to O/L (43.7%), while only 5.3% had pursued higher education. Household size varied, but the largest share of respondents came from two-member households (36.4%), followed by those with 7 members (12.6%) and 3 members (17.2%). Regarding income, the majority (58.9%) earned less than Rs. 25,000 per month from mushroom cultivation, while only 5.3% reported earning more than Rs. 75,000. Oyster mushroom was the most common cultivar (43.0%), followed by a combination of oyster and abalone (30.5%), while 17.9% cultivated other mushroom types.

4.2 Instrument validation of the model

As mentioned in following table 2, Cronbach's alpha values, mean score values and standard deviation values were used to test the reliability of the selected independent and dependent variables. The correlations between the study variables are provided in Table 3.

Table 2: Mean, standard deviation and reliability analysis for the selected dimensions

Dimension	Corresponding number of items	Cronbach's alpha values	Mean	SD
Investment	5	0.835	0.42	0.576
Marketing efforts	5	0.873	0.89	0.363
Training and skill development	5	0.788	1.01	0.355
Access to resource	5	0.817	0.82	0.502
Technological adoption	5	0.816	0.81	0.363
Success of mushroom enterprises	5	0.821	0.69	0.478

Source: Survey Data

Table 3: Pearson correlation coefficients and significance levels

Dimension		[1]	[2]	[3]	[4]	[5]	[6]
Success of mushroom enterprises [1]	Pearson correlation	1	.227**	-.036	.313**	.155	.385**
	Sig. (2-tailed)		.005	.660	.000	.049	.000
Investment [2]	Pearson correlation	.227**	1	-.100	.198*	-.032	.144
	Sig. (2-tailed)	.005		.222	.015	.696	.079
Training and skill development [3]	Pearson correlation	-.036	-.100	1	.292**	.402**	.045
	Sig. (2-tailed)	.660	.222		.000	.000	.580
Access to resources [4]	Pearson correlation	.313**	.198*	.292**	1	.309**	.054
	Sig. (2-tailed)	.000	.015	.000		.000	.508
Technological adoption [5]	Pearson correlation	.155	-.032	.402**	.309**	1	.230**
	Sig. (2-tailed)	.049	.696	.000	.000		.005
Marketing efforts [6]	Pearson correlation	.385**	.144	.045	.054	.230**	1
	Sig. (2-tailed)	.000	.079	.580	.508	.005	
N		151	151	151	151	151	151

** Correlation is significant at the 0.01 level (2-tailed)
* Correlation is significant at the 0.05 level (2-tailed)

Source: Survey Data

4.3 Regression analysis between variables

The regression model examined the effect of Investment in mushroom cultivation, Training and skill development, Access to resources, Technological adoption, and Marketing efforts on Entrepreneurial success.

Table 4: Regression Model Summary

Model	R	R Square	Adjusted R Square	F Change	df1	Sig. Change	Durbin-Watson
1	.515[a]	.265	.239	10.446	5	.000	2.150

a. Predictors: (Constant), Marketing efforts, Training and skill development, Investment in mushroom, Access to resources, Technological adoption

b. Dependent Variable: Success of entrepreneur

Source: Survey Data

Multiple linear regression analysis was used to investigate the impact of mushroom cultivation investment, training and skill development, resource availability, technological adoption, and marketing initiatives on entrepreneurial performance. According to table 4, the model was statistically significant ($p < 0.001$), showing that the specified independent variables account for a considerable part of the variance in entrepreneurial success. The R value of 0.515 indicates a moderate positive association between the predictors and the dependent variable. The R^2 value of 0.265 reveals that the model explains approximately 26.5% of the variation in entrepreneurial success. The adjusted R^2 value of 0.239 indicates that the model still has limited explanatory power after accounting for the number of predictors. The Durbin-Watson value (2.150) shows that there is no significant autocorrelation in the residuals, supporting the reliability of the model.

Table 5: ANOVA

ANOVA[a]						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	9.058	5	1.812	10.446	.000[b]
	Residual	25.148	145	.173		
	Total	34.206	150			

a. Dependent Variable: Success of entrepreneur

b. Predictors: (Constant), Marketing efforts, Training and skill development, Investment in mushroom, Access to resources, Technological adoption

Source: Survey Data

As mentioned in table 5, $p < 0.05$, we reject the null hypothesis and conclude that the predictors jointly have a significant effect on entrepreneurial success.

Table 6: Coefficients of Multiple Regression Analysis

Coefficients[a]						
		Unstandardized Coefficients		Standardized Coefficients		
Model		B	Std. Error	Beta	t	Sig.
1	(Constant)	.157	.136		1.157	.249
	Investment in mushroom	.085	.062	.103	1.377	.171
	Training and skill development	-.199	.108	-.148	-1.842	.067
	Access to resources	.288	.075	.303	3.850	.000
	Technological adoption	.061	.117	.043	.527	.599
	Marketing efforts	.461	.098	.350	4.719	.000

a. Dependent Variable: Success of entrepreneur

Source: Survey Data

Among the individual predictors as mentioned in table 6, marketing efforts ($\beta = 0.350$, $p < 0.001$) and resource access ($\beta = 0.303$, $p < 0.001$) demonstrated significant positive effects on entrepreneurial success (table 6) which suggests that effective marketing strategies and improved access to necessary resources play a significant role in success of the entrepreneurs. On the other hand, although their coefficients showed weak or positive relationships with business performance, investments in technological adoption ($p = 0.599$), training and skill development ($p = 0.067$), and mushroom cultivation ($p = 0.171$) were not statistically significant predictors. These findings indicate that although the model as a whole is statistically significant, marketing initiatives and resource availability are the most important factors influencing entrepreneurial success in this setting. This emphasizes the significance of market-oriented strategies and resource availability for the expansion and sustainability of agri-entrepreneurs.

5. Discussion

This study investigated the factors that influence entrepreneurial success in small-scale mushroom firms, with an emphasis on investment, marketing activities, training and skill development, resource availability, and technological adoption. The findings show that marketing efforts and access to resources are the most important determinants of firm performance, but investment, training, and technical adoption have no statistically significant effects. These findings offer valuable insights into the contextual dynamics of small-scale farming in emerging economies.

5.1 Influence of investments on the success of mushroom enterprises

The analysis reveals a statistically not significant impact between investment in mushroom cultivation and the overall success of mushroom enterprises ($p > 0.01$). Although it is commonly believed that investment enhances entrepreneurial performance, a number of contextual and structural reasons may account for the lack of a major impact of investment in mushroom farming in the Hambatota DS, Sri Lankan mushroom enterprise.

The fact that most Sri Lankan mushroom growers work on a micro or small scale and use inexpensive production methods and locally accessible resources like sawdust, paddy straw, or compost could be one reason. According to Gamage and Ohga (2018), mushroom cultivation is still relatively underdeveloped, with most growers relying on low-cost production methods, which are aided by the effectiveness of locally available substrates such as paddy straw, coconut leaves, and sugarcane bagasse (Rajapakse et al., 2007). Thereby mushroom growers in the area reducing dependence on capital-intensive investments. Because of this, the production process does not require a lot of capital, and changes in the amount of investment do not result in appreciable fluctuations in yield or profitability.

Furthermore, inefficiencies in financial management and poor integration within agricultural value chains may hinder the effectiveness of investment. Karunananda and Jayamaha (2011) further substantiates this by highlighting widespread inefficient use of accounting information among small enterprises. Also, Aivazian and Santor (2008) provides additional context, demonstrating that credit-constrained firms struggle with investment activities. Additionally, even for well-funded entrepreneurs, the financial benefits from the Sri

Lankan mushroom sector are diminished by market instability, seasonal variations in demand, and a weak value chain integration.

These findings indicate that, in resource-constrained agribusiness environments, the efficacy of investment is determined more by its use and supporting systems than by its size alone. Therefore, investments in mushroom farming did not have a significant effect on the success of mushroom enterprises in selected respondents (Hypothesis 1 is not accepted).

5.2 Influence of marketing efforts on the success of mushroom enterprises

Marketing efforts show a significant positive relationship ($\beta = 0.350$, $p < 0.001$) with the success of mushroom enterprises, indicating that effective promotion and market engagement strategies play a crucial role in enhancing business performance.

This result is in line with earlier studies which mentioned that, increasing product visibility, reaching wider consumer bases, and building brand awareness, strong marketing practices contribute directly to the growth and sustainability of mushroom enterprises (Fernando et al., 2022). Marketing also helps differentiate mushroom products in a competitive market, emphasizing unique selling points like organic cultivation, health benefits, and sustainability. This differentiation fosters consumer trust and preference, leading to increased demand and better pricing power (Mafe et al., 2025). Moreover, marketing feedback loops from customer interactions allow businesses to refine products and services continuously, enhancing customer satisfaction and retention. Overall, the alignment of marketing efforts with business goals directly contributes to mushroom enterprises achieving higher revenues, expanding market presence, and sustaining long-term growth. Thus, there is a clear and positive relationship between strong marketing practices and mushroom enterprise success (Akbar, 2024).

Furthermore, marketing serves as a feedback mechanism, helping businesses to adjust to changing consumer preferences and market conditions. This responsiveness improves both client happiness and long-term viability. These findings support the claim that market-oriented capabilities are more important than production-oriented inputs in determining agricultural performance in developing economies (Hypothesis 2 is accepted).

5.3 Influence of training and skill development on the success of mushroom enterprises

In this study, training and skill development does not show significant correlation ($p > 0.05$) with the success of mushroom enterprises. This suggests that improvements in training and skill development may not have a direct impact on mushroom-related business success or growth. But multiple studies show that training programs significantly increase participant knowledge of mushroom cultivation techniques, quality control, and value addition (Ganie et al., 2024). Further, training often motivates participants to start mushroom enterprises, with many reporting increased income and improved livelihoods after adoption (Chavan et al., 2022).

Several factors could explain this disagreement, including the possibility that training programs are not sufficiently tailored to practical needs of growers, or that other barriers, such as limited access to technology, capital, or infrastructure, which play a more decisive role in determining enterprise success. Furthermore, it may imply that knowledge gained during

training is not being effectively applied in reality, maybe due to implementation difficulties or a lack of follow-up support. This conclusion emphasizes the importance of reevaluating the content, distribution, and contextual relevance of training initiatives in order to ensure that they produce tangible results for mushroom firms.

This implies that training alone is insufficient unless supplemented with enabling conditions that promote the application of skills in real-world scenarios. Therefore, training and skill development in mushroom farming does not have a positive effect on the success of mushroom enterprises in the selected area (Hypothesis 3 is not accepted).

5.4 Influence of access to resources on the success of mushroom enterprises

Access to resources shows a significant positive relationship ($\beta = 0.303$, $p < 0.001$) with the success of mushroom enterprises. According to this statistically significant relationship, the general performance and success of mushroom businesses tend to improve as access to necessary resources increases. Improved access makes it possible for growers to scale their businesses, invest in technology, implement improved production practices, and better manage risks. Additionally, it promotes steady production cycles, greater yields, and improved product quality and from that boost sustainability and profitability of mushroom enterprises.

Findings were aligned with some studies mentioned that, availability of critical inputs such as quality spawn, substrate materials, water, energy, and cultivation technology directly influences the ability to produce high yields and maintain consistent product quality (Lakdawala et al., 2025; Higgins et al., 2017). Moreover, Ethiopian mushroom production is similarly influenced by resource availability, including financial resources, labor, and technological access, which significantly affect farming scale and success (Massrie, 2025). These findings confirm that reliable resource access enables better cost management and market responsiveness. Additionally, Fernando et al. (2022) and Higgins et al. (2017) explained that access to financial resources enables investment in infrastructure, equipment, and marketing, which are essential for scaling operations and reaching wider markets. Access to knowledge resources, including training and expert guidance, further enhances operational efficiency and innovation.

In the context of small-scale mushroom firms, resource availability decreases operational risks and improves production scalability. It also improves resilience to exogenous shocks like market swings and environmental uncertainty. These findings corroborate the resource-based view (RBV), highlighting that access and effective usage of vital resources are fundamental to attaining a competitive advantage (Hypothesis 4 is accepted).

5.5 Influence of technological adoption on the success of mushroom enterprises

The findings indicate that, despite its beneficial impact, technological adoption has no statistically significant effect on enterprise performance ($p > 0.05$). According to this research, technology can increase production efficiency, but its current level of use in the selected respondents are either insufficient or uneven, making it impossible to measure an improvement in entrepreneurial performance. The limited adoption and practical use of modern technologies by small and medium-sized mushroom producers is a primary cause of this result.

Dilrukshi et al. (2021) noted that precision agricultural technologies vary in adoption based on economic and social factors. Further, research highlighted key barriers including lack of awareness, educational resources, infrastructure, and economic limitations for technological adoption by entrepreneurs (Dhillon & Moncur, 2023). Also, the majority of regional farmers use low-tech, traditional growing methods include hand spawning, natural ventilation, and crude temperature control systems. Because of their high cost, lack of technical expertise, and lack of institutional support, modern advancements like temperature-regulated growing chambers, automated humidity controllers, enhanced sterilization systems, and climate monitoring sensors are still mostly out of reach. New technologies in mushroom cultivation in Sri Lanka are indeed largely inaccessible due to significant technological, financial, and institutional barriers (Bandara et al., 2024; Surige et al., 2021).

This shows that technology adoption alone will not result in better outcomes unless it achieves a threshold level of dissemination and is accompanied by training, infrastructure, and financial access (Hypothesis 5 was not supported).

Implications for theory and practices

The study emphasizes that while investment, training, and technology adoption have little bearing on entrepreneurial success in mushroom firms, marketing strategies and resource accessibility are important factors. This implies that market-driven and resource-based factors have more influence than conventional inputs, highlighting the necessity for entrepreneurial models to take resource-related and contextual constraints into account, particularly in small-scale agricultural endeavors.

According to the findings, policymakers and practitioners should give priority to enhancing mushroom entrepreneurs' access to necessary resources and expanding their marketing capacities. Productivity, market reach, and profitability can all be increased by offering assistance in the form of dependable inputs, monetary and logistical resources, and advice on successful marketing techniques. Although adoption of technology, skills, and investment are crucial, their effects are limited unless entrepreneurs have access to markets and adequate funding. In order to help mushroom businesses expand sustainably and maintain their competitiveness in local and regional markets, practical interventions should concentrate on resource facilitation, market connections, and marketing capacity building.

6. Conclusion

The study identifies several key factors that significantly influence the success of mushroom enterprises. The results show that marketing initiatives and resource availability significantly improved entrepreneurial success, indicating that crucial resource availability and successful marketing tactics are important performance drivers. On the other hand, although exhibiting weak or positive relationships, technical adoption, training and skill development, and investment in mushroom cultivation were not statistically significant. This suggests that while the model as a whole is statistically significant, market-oriented practices and resource availability are the most important factors influencing entrepreneurial success in this context. This highlights the significance of strengthening marketing capabilities and resource

availability to improve the competitiveness, growth, and sustainability of mushroom entrepreneurs in area.

Limitations and future research directions

There are a number of limitations on this study. It was carried out in a particular area of Sri Lanka, which restricts how broadly the results may be applied. The cross-sectional methodology limits insights into the long-term effects of training, investment, and technology adoption because it only collects data at one particular moment in time. The findings' comprehensiveness may also be impacted by their reliance on self-reported data and a small number of covariates. In order to overcome these constraints, future studies could employ longitudinal designs, broaden their geographic scope, add more pertinent variables like financial literacy or policy support, and use qualitative techniques to delve deeper into the tactics and difficulties faced by entrepreneurs. Intervention-based research that looks at the results of focused marketing, training, or technology assistance may also offer helpful advice to improve the success of mushroom enterprises.

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Appendix

Investment in mushroom farming

1. By investing equipment and machinery, it was possible to increase production efficiency.
2. Ability to continuously obtain sufficient raw materials for my mushroom business.
3. My mushroom business has enough workers to maintain efficient production.
4. I am having a Effective marketing and distribution strategies to my product.
5. Investing in modern infrastructure of my mushroom business increased the efficiency of the business and the quality of the products.

Training and skill development

1. Cultivation techniques were effectively used to increase the yield and quality of my mushroom cultivation.
2. Adequately pest and disease management strategies have been applied to protect my mushroom cultivation.
3. The use of harvesting and post-harvest handling techniques has improved the quality of my mushroom farm products.
4. New business management methods have been used for agricultural activities in my mushroom cultivation.
5. Mushroom products are stored properly to maintain the quality and safety of my products.

Access to Resources

1. I have enough land and the land is a suitable environment for mushroom cultivation, So I can carry out agricultural activities successfully.
2. Production efficiency has increased due to continuous supply of sufficient suitable raw material and suitable growth medium for my mushroom cultivation.
3. Sufficient continuous water supply is available to sustain mushroom cultivation of my mushroom business.
4. Technical knowledge and experience were very important to increase the production and efficiency of my mushroom business.
5. The availability of adequate infrastructure and equipment in my mushroom farm has improved the quality of mushrooms and the efficiency of production.

Technological Adoption

1. A uniform continuously yield was obtained from my mushroom cultivation by using climate control methods.
2. Monitoring and data management actions were performed properly, so my mushroom cultivation improved overall.
3. By using seeds produced using new technology, the yield and quality of my mushroom cultivation increased.
4. Usage of digital tools in mushroom cultivation activities, the cultivation efficiency may increase significantly.
5. Proper handling and processing of the harvest of my mushroom farm could improve product quality and safety.

Marketing Efforts

1. My mushroom products are sold in significant quantities on a daily basis by products/service branding and packaging.
2. I have a cordial and trustful relationship with the suppliers associated with my mushroom business.
3. Digital marketing enabled by business to get valuable information about raw materials, new equipment and services.
4. I was able to develop my mushroom business by attending lectures on products/samples and mushroom cultivation and following its instructions.
5. I am having good feedback system for the consumer.

Success of the mushroom enterprises

1. Selling my mushroom products can make significant profit daily.
2. Mushroom business can provide significant employment opportunities.
3. The amount of yield that can be obtained from a unit of land in my mushroom cultivation is high.
4. As an entrepreneur, the satisfaction level of my mushroom business and the success of the business are high.
5. I have a good ability to do the market penetration.