

*Economy Section Article*

# Exploring Entrepreneurial and Digital Literacy in Mushroom Farming Businesses Sustainability

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## ABSTRACT

This study delves into the collaborations between mushroom farmers, digital entrepreneurship, and sustainability, investigating the potential economic, environmental, and social benefits of this nexus. The problem formulation centers on the transformative impact of digital technologies on entrepreneurial activities within the mushroom farming sector and the sustainable practices integral to mushroom farming. The primary objectives encompass understanding how digital entrepreneurship, facilitated by digital tools, can enhance the visibility and accessibility of mushroom products and comprehensively explore the sustainability dimensions inherent in mushroom farming practices. The study uses content analysis and interviews to get insights from entrepreneurs and industry professionals using qualitative research methods. Preliminary results indicate that digital tools can significantly propel entrepreneurial growth within the mushroom farming industry, while sustainable practices, including reduced water usage and recycling of agricultural waste for substrate, contribute to environmental conscientiousness and economic viability. The discussion underscores the multifaceted impact of mushroom farming, not only as an economic driver but also as a means of poverty reduction and enhancement of small farming systems' sustainability through recycling organic matter. This study illuminates the promising potential of combining digital entrepreneurship with sustainable agricultural practices, particularly in mushroom farming, providing valuable insights for entrepreneurs, policymakers, and researchers.

## KEYWORDS

agricultural practices; digital entrepreneurship; economic and environmental impact; mushroom farming; sustainability

## 1. INTRODUCTION

The global Covid-19 pandemic, originating in Wuhan, China in December 2019, has significantly impacted various sectors worldwide, particularly the economic domain (Wang et al., 2021; Widodo et al., 2022). Industries grappling with financial challenges have resorted to employee layoffs. However, amidst the adversity, the pandemic has spurred entrepreneurial interest globally (Dayour & Adam, 2022). In Beruk Village, located in Jatiyoso District, Karanganyar Regency, Central Java, Indonesia, predominantly agrarian, with farmers, ranchers, and entrepreneurs, the community has embraced entrepreneurship by cultivating ear mushrooms. Ear mushrooms have become a good business idea because of their tasty flavor, high nutritional value, high market demand, and ease of care. These qualities make them resilient during economic uncertainty (Mishra, 2022).

Entrepreneurship involves the integration of novel ideas, innovation, and product development, enhancing the product's value (Ferrerias-Méndez et al., 2021). It plays a pivotal role in advancing a nation's progress. Establishing a business requires acquiring entrepreneurial and digital literacy (Matli & Ngoepe, 2020). Entrepreneurial literacy encompasses using positive, creative, and innovative traits to translate business opportunities into ventures that benefit individuals, society, and customers (Tortia et al., 2020). Factors, including mindset, attitudes, and behaviors, significantly influence entrepreneurial literacy, highlighting its pivotal role in shaping successful entrepreneurial endeavors (Mawson et al., 2023).

Digital literacy is the competence to access, comprehend, and utilize information from diverse digital sources (Pangrazio et al., 2020). Its profound impact on businesses is evident in the swift acquisition and dissemination of the latest information, facilitating informed decision-making (Mikalef et al., 2021). Moreover, digital literacy proves instrumental in resource optimization, time and cost savings, network expansion, and skill enhancement (Wang et al., 2022). The proficiency in navigating digital realms enhances operational efficiency and strategic capabilities, positioning businesses to thrive in an increasingly interconnected and technologically driven landscape (Imjai et al., 2023).

To circumvent duplication, the author meticulously reviewed prior research, extracting pertinent insights from various studies. The focus of this study diverges in terms of location and timeframe, centering on mushroom farmers in Beruk Village, Jatiyoso Subdistrict, Karanganyar Regency, Central Java Province. This research endeavors to discern the impact of entrepreneurial and digital literacy on the sustainability of farming enterprises in this specific geographic context, presenting a novel contribution to the academic landscape. The uniqueness of this research lies in its exploration of mushroom farming in Beruk Village, Jatiyoso Sub-district, Karanganyar District, which, to date, has been unexplored by researchers. The anticipated contribution of this article extends beyond its immediate audience, offering valuable insights to readers and serving as a foundational resource for future researchers engaged in comparable agricultural investigations.

## 2. METHODOLOGY

This study employs qualitative and phenomenological analysis methods to investigate the impact of entrepreneurial and digital literacy on the sustainability of mushroom farming businesses in Beruk Village, Jatiyoso District, and Karanganyar Regency. The phenomenological approach seeks to elucidate the nuances surrounding entrepreneurship and digital mushroom farming within the Beruk village environment. Primary data gathered directly through interviews and field data collection, comprises responses from mushroom

producers regarding the influence of digital literacy and entrepreneurship on business sustainability. Secondary data, obtained indirectly through literature studies, libraries, and archives, includes information from the local government and demographic data. The study utilizes snowball sampling, focusing on two mushroom farmers as informants. The intention is to gather detailed information impacting the sustainability of their businesses. Initially selecting one or two individuals, additional informants were included based on their perceived expertise, ensuring a comprehensive understanding of the subject matter.

### 3. RESULTS AND DISCUSSION

#### 3.1. Sustainability Business Through Entrepreneurial Literacy

Entrepreneurial literacy, integral to business continuity, encompasses knowledge acquisition, comprehension of influencing factors, and mastery of fundamental elements (Marvel et al., 2020). It is a foundational pillar, enabling entrepreneurs to navigate challenges effectively, make informed decisions, and understand essential aspects of the entrepreneurial process. The multifaceted nature of entrepreneurial literacy highlights its pivotal role in shaping successful and sustainable business endeavors (Vaio et al., 2022).



Figure 1. Interview with Mrs. Sularni

##### 3.1.1. Knowledge

Knowledge is a crucial indicator of entrepreneurial literacy, significantly influencing the sustainability of mushroom farming businesses in Beruk Village. Basic entrepreneurial knowledge encompasses the skills required to successfully initiate and manage a business. According to Ngah & Wong (2020), this knowledge encompasses the ability to identify opportunities, formulate strategies, efficiently manage capital, and effectively market products. The importance of understanding entrepreneurship is underscored by insights gained from an interview with Mrs. Sularni. Her perspective highlights that entrepreneurs must possess a solid grasp of entrepreneurial knowledge to navigate challenges and ensure the success of their businesses. Failure to do so may lead to difficulties or even business failure. Thus, a comprehensive understanding of entrepreneurial knowledge is essential for aspiring and existing entrepreneurs in Beruk Village.

### 3.1.2. Influence Factors

Entrepreneurial literacy is influenced by critical factors such as knowledge, attitudes, skills, and capital (Oggero et al., 2020). Among these, the capital factor holds particular significance in entrepreneurship, as an interview with Mrs. Sularni underscored. According to her, capital is pivotal, as the absence of financial resources impedes the initiation and development of a business. Beyond capital, the interplay of skills and knowledge emerges as equally vital for business success. Without requisite skills, a business may falter and face bankruptcy. According to Sutisna et al. (2021), a holistic understanding of entrepreneurial factors, comprising knowledge, attitudes, skills, and access to capital, is essential for fostering entrepreneurial literacy and ensuring businesses' sustained success and growth in the entrepreneurial landscape.

### 3.1.3. Basic Elements

As discussed with Ms. Sularni about her mushroom farming venture, competition is an inevitable part of navigating the economic arena. With numerous competitors, Mrs. Sularni adopts a diligent, innovative, and courageous approach, expanding her role beyond a farmer to become a mushroom supplier. This strategic response aligns with entrepreneurship theory, as Ochago et al. (2023) articulated, emphasizing entrepreneurship as a creative pursuit. According to this theory, entrepreneurs generate novel products or services, previously nonexistent, with the potential to cater to a broad audience. Mrs. Sularni's proactive and multifaceted strategy exemplifies the entrepreneurial spirit, demonstrating adaptability and innovation in business competition, in line with foundational principles in the entrepreneurship literature.

## 3.2. Business Sustainability Through Digital Literacy

Three dimensions of digital literacy significantly impact business sustainability. Firstly, proficiency in accessing and comprehending digital information enables businesses to stay abreast of current trends (Hickey & Chartrand, 2020). Secondly, adept utilization of digital tools and platforms enhances operational efficiency, contributing to sustainable practices (Toumbourou et al., 2023). Lastly, a keen understanding of cybersecurity and data privacy fosters a secure digital environment, safeguarding businesses against potential threats and ensuring sustained longevity (Wardhiani et al., 2023).

### 3.2.1. Basic Digital Knowledge

Foundational digital knowledge is a pivotal indicator in the digital literacy of mushroom farmers within Beruk Village, Jatiyoso District, Karanganyar Regency. According to Prihadyanti and Aziz (2023), this knowledge encompasses technological and informational proficiency, enabling entrepreneurs to expand market reach, enhance operational efficiency, and boost productivity. The integration of internet media platforms, such as Facebook and WhatsApp, for marketing purposes, is observed among mushroom farmers (Unay-Gailhard & Brennen, 2022). Insights derived from an interview with Ms. Sularni underscore the significance of technological understanding in today's sophisticated landscape, emphasizing the missed opportunities should entrepreneurs fail to leverage digital tools for business growth and sustainability.

### 3.2.2. Evaluation of Content and Information

Content and information evaluation is a critical assessment of the accuracy and quality of generated content (Santoso et al., 2023). When opting for online product marketing, businesses must carefully select platforms, define target markets and competitors, and prioritize data security (Juswadi et al., 2020). The content produced should be of high quality, relevance, and attractiveness to effectively enhance sales, engage customers, and establish a robust brand presence. Insights from an interview with Ms. Sularni underscore the pivotal role of content in marketing, emphasizing its capacity to capture customer attention and foster brand strength, thereby contributing to increased sales and market success.

### 3.2.3. Internet Search

Internet search is paramount for entrepreneurs as a crucial tool for accessing essential business information and fostering brand development (Fahmi & Savira, 2023). In an interview with Ms. Sularni, she emphasized the significance of branding to ensure product recognition. Utilizing social media platforms like Facebook for marketing and displaying her business name on her pickup truck exemplifies her strategic approach to brand promotion (Susanti et al., 2023). According to Javaid et al. (2022), this integration of online resources facilitates information retrieval for business operations and underscores the contemporary reliance on digital platforms for brand visibility. Ms. Sularni's practices align with the broader understanding that effective internet utilization contributes to information access and brand-building efforts, enhancing overall success and recognition of entrepreneurial endeavors.

## 3.3. Digital Entrepreneur, Sustainability, and Mushroom Farming

Business sustainability is defined by a company's ability to maintain a sufficient budget for ongoing operations and development, aiming to maximize the wealth of capital owners (Kurniawan et al., 2022). While profit maximization is a primary objective, ensuring business continuity is equally crucial in the face of competitive pressures. Business continuity programs are implemented to safeguard ongoing operations and prevent adverse situations such as bankruptcy, wherein a company becomes incapable of meeting its financial obligations (Gunawan et al., 2022). Predictive calculations play a pivotal role in assessing the sustainability of a business, factoring in direct and indirect costs associated with estimating the probability of bankruptcy. Calculating business sustainability is integral for management, emphasizing the importance of long-term internal performance growth achieved through consistently delivering quality products and services (Prayitno et al., 2022).

Due to various compelling factors, mushroom farming emerges as a financially advantageous endeavor for rural farmers. Notably, it offers a low-cost and straightforward entry point for farmers seeking to diversify their income sources and utilize rural land effectively. The high yield potential, averaging around 500 kilograms per crop, enhances its appeal as a lucrative venture. Additionally, mushroom farming provides access to tax benefits and programs that can result in further savings for qualifying farmers, including exemptions and tax credits. The income derived from mushroom production is categorized as agricultural income, presenting specific implications for tax purposes. With a modest monthly investment of less than Rs 10,000, farmers stand to earn a substantial monthly profit of at least Rs 25,000 through mushroom farming, underscoring its profitability. Beyond financial gains, mushroom farming contributes positively to rural communities by



fostering increased income, financial assistance, and housing support opportunities (Surya et al., 2020).

Mushroom farming emerges as a pivotal contributor to rural farming business sustainability, encompassing diverse benefits. Its inherent sustainability is marked by reduced water requirements compared to conventional crops, rendering it an environmentally conscious choice (Nugroho et al., 2022). Furthermore, mushroom farmers epitomize recycling practices by utilizing agricultural waste, enhancing the industry's sustainability. As a lucrative endeavor, it generates a steady income for rural farmers with a modest investment, presenting a viable avenue for sustainable income generation (Irawan et al., 2023). The positive impact extends to rural communities, fostering increased income, financial assistance, and housing support opportunities (Suswadi et al., 2023). Beyond financial gains, mushroom farming enables rural farmers to diversify their agricultural activities, mitigating reliance on a single crop and establishing a more stable income stream. Mushroom farmers are a multifaceted solution that aligns with environmental conscientiousness, economic viability, and community development in rural agriculture (Esthi et al., 2023; Widiyanti et al., 2023).

Mushroom farmers stand poised to play a pivotal role in digital entrepreneurship, aligning with sustainability principles and yielding multifaceted benefits for entrepreneurs and the environment (Bühler et al., 2023). In the digital transformation era, entrepreneurs within the mushroom agro-industry can harness digital tools and platforms for marketing, networking, and engaging potential buyers (Kumar & Karthikeyan, 2022). This digitized approach enhances the visibility and accessibility of mushroom products, thereby fostering entrepreneurial growth. Beyond its digital dimensions, mushroom farmers are inherently sustainable, demanding less water than conventional crops and promoting environmentally friendly practices (Sundari et al., 2023). Notably, mushroom farmers recycle, repurposing agricultural waste into a substrate, thereby contributing to the industry's overall sustainability (Suhartini et al., 2022). The significant and widespread impacts of mushroom farmers on livelihoods and poverty reduction underscore its potential for rural and peri-urban dwellers, offering a viable and attractive venture with minimal land and capital requirements (Surya et al., 2020). Moreover, recycling organic matter in mushroom farming further enhances the sustainability of small farming systems by serving as a valuable fertilizer.

#### **4. CONCLUSION**

The research findings underscore the integral role of entrepreneurial literacy in shaping the continuity of ear mushroom farming businesses. Given that entrepreneurship necessitates fundamental knowledge encompassing influencing factors and core elements such as knowledge, attitudes, and skills, it is imperative to emphasize educational initiatives targeting mushroom farmers. Incorporating digital literacy into these educational programs is equally crucial, as evidenced by its impact on the business continuity of mushroom farmers. Ensuring that entrepreneurs possess digital knowledge, proficiency in content evaluation, and internet search skills is vital for effective marketing and account security. Furthermore, recognizing the sustainability challenges within the mushroom farming business, interventions should focus on fostering basic knowledge of sustainable practices. Identifying supporting and inhibiting factors influencing entrepreneurial systems in sustainable business practices allows for a more comprehensive approach to business continuity. Regarding policy implications, there is a clear need to integrate entrepreneurial and digital literacy components into agricultural education programs, equipping mushroom farmers with the necessary skills for sustained success. Additionally, policies promoting sustainable business practices and addressing inhibiting factors can contribute to the

overall resilience and longevity of the mushroom farming industry. This comprehensive approach ensures that the research findings translate into actionable recommendations and policies, fostering a conducive environment for the sustainable growth of ear mushroom farming businesses.

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