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The Influence Of Digital Business Technology On Business Development In Support Of A Sustainable Economy For Bonsai Plant Traders In Probolinggo Regency

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Abstract

Digital transformation has significantly reshaped the development of micro, small, and medium enterprises (MSMEs); however, the adoption of digital business technology among bonsai plant traders in Probolinggo Regency remains uneven, potentially affecting business competitiveness and sustainability. This study aims to analyze the influence of digital business technology on the business development of bonsai plant traders in supporting sustainable economic development in Probolinggo Regency. The research employs a quantitative approach with an explanatory survey design. Primary data will be collected through questionnaires distributed to bonsai traders selected using purposive sampling, while secondary data will be obtained from Statistics Indonesia (BPS), the Office of Cooperatives and MSMEs, and relevant scientific publications. Data analysis will be conducted using Structural Equation Modeling–Partial Least Squares (SEM-PLS) to evaluate the validity and reliability of the measurement model and to examine the relationships among the research variables. The expected findings indicate that the adoption of digital business technology, reflected in the utilization of social media, online marketplaces, digital payment systems, and digital communication platforms, has a positive and significant effect on business development, as evidenced by increased sales, broader market coverage, customer growth, and enhanced business competitiveness. Furthermore, business development supported by digital technology is expected to contribute to sustainable economic development by improving operational efficiency, expanding economic opportunities, and increasing the welfare of business owners. The study concludes that digital business technology is a strategic driver of business transformation, enabling bonsai traders to build more innovative, adaptive, and sustainable business models. Therefore, collaborative support from local governments, higher education institutions, and other stakeholders is recommended through digital literacy training, digital marketing assistance, and the strengthening of the digital ecosystem for bonsai-based MSMEs.

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Keywords: Business Development; Bonsai Plants; Digital Business Technology; Sustainable Economy

INTRODUCTION

The development of digital business technology has become a primary driver for the transformation of micro, small, and medium sized enterprises (MSMEs) in Indonesia. The use of social media, online marketplaces, digital payment systems, and business communication applications offers entrepreneurs opportunities to expand their market reach, enhance transaction efficiency, and strengthen their business competitiveness. The government continues to promote the digital transformation of MSMEs as a key component of its national economic development strategy. In the Probolinggo region, entrepreneurial activity is on an upward trend, as evidenced by the growing number of businesses registered through licensing systems and the MSME development programs implemented by the local government. This situation highlights a gap between the rapid advancement of digital business technology and its actual adoption within the bonsai trade, particularly regarding the enhancement of business capacity and the support of a sustainable economy.

Based on preliminary observations and interviews with several bonsai traders in Probolinggo Regency, most entrepreneurs continue to market their products through community networks, exhibitions, and direct sales. The utilization of online marketplaces, social media, and digital payment systems remains limited, preventing these businesses from fully realizing their potential for market expansion and increased competitiveness. This underscores a gap between the rapid evolution of digital business technology and the extent to which it has been adopted by the bonsai trade sector in Probolinggo Regency.

Nevertheless, hobby-based businesses and specialized agribusinesses such as those dealing in bonsai plants have yet to fully leverage digital business technology. Most marketing still relies on community networks, exhibitions, or direct sales, meaning the potential to expand markets via digital platforms remains largely untapped. This situation highlights a gap between the rapid advancement of digital business technology and its actual adoption within the bonsai trade, particularly regarding the enhancement of business capacity and the support of a sustainable economy.

Based on preliminary observations and interviews with several bonsai traders in Probolinggo Regency, most entrepreneurs continue to market their products through community networks, exhibitions, and direct sales. The utilization of online marketplaces, social media, and digital payment systems remains limited, preventing these businesses from fully realizing their potential for market expansion and increased competitiveness. This underscores a gap between the rapid evolution of digital business technology and

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the extent to which it has been adopted by the bonsai trade sector in Probolinggo Regency.

The digitalization of MSMEs (Micro, Small, and Medium Enterprises) has been extensively studied by various researchers. A study by Nuseir (2020) titled "The Impact of Digital Media on SMEs Performance," published in the *International Journal of Innovation, Creativity and Change*, employs theories of digital marketing and technology adoption through a quantitative approach based on Structural Equation Modeling (SEM). The study demonstrates that the utilization of digital media positively influences business performance by expanding market access, enhancing communication with consumers, and improving promotional efficiency. It recommends that MSME operators strengthen their digital competencies as a strategy to maintain competitiveness in the digital economy.

Ainin et al. (2020), titled "Social Media Adoption and Business Performance among SMEs" and published in *Industrial Management & Data Systems*, examines the relationship between social media usage and MSME performance, utilizing the Technology Acceptance Model (TAM) and the Resource-Based View (RBV). The study employs a quantitative survey method and Partial Least Squares (PLS) analysis. The findings indicate that the use of social media improves customer relations, strengthens business image, and boosts sales. The study concludes that the success of business digitalization is determined not only by the adoption of technology but also by an organization's capacity to manage digital resources effectively.

Furthermore, a study by Verhoef et al. (2021) titled "Digital Transformation: A Multidisciplinary Reflection and Research Agenda," published in the *Journal of Business Research*, adopts a conceptual approach through a systematic literature review. It explains that digital transformation entails a comprehensive shift in business models supported by digital technology, organizational innovation, and the creation of sustainable value. The review suggests that digitalization can enhance productivity, efficiency, innovation, and business sustainability, provided it is integrated with an appropriate business strategy.

While all three studies share the perspective that digital technology is a critical factor in improving business performance, existing research has largely focused on the MSME sector in general, or specifically on retail and service industries. In contrast, research concerning the use of digital business technology within the bonsai plant trade remains very limited. Furthermore, the relationship between digital business technology and business development oriented toward a sustainable economy at the regional level specifically in Probolinggo Regency has not been extensively studied. Therefore, this research seeks to address this research gap by empirically analyzing the influence of

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digital business technology on the business development of bonsai plant traders in support of a sustainable economy

DISCUSSION

The hypothesis in this study is that digital business technology has a positive and significant impact on the business development of bonsai plant traders, thereby supporting a sustainable economy in Probolinggo Regency. A higher level of utilization of digital business technology encompassing the use of social media, online marketplaces, digital payment systems, and business communication platforms corresponds to a higher level of business development, as reflected in improved marketing and sales, expanded market share, enhanced business competitiveness, and a greater contribution to a sustainable economy.

This study employs a quantitative paradigm with the objective of examining the causal relationship between digital business technology (the independent variable) and the business development of bonsai plant traders (the dependent variable) in the context of supporting a sustainable economy in Probolinggo Regency. The quantitative paradigm was selected because it enables the objective measurement of variables through quantifiable indicators, as well as the testing of hypotheses using inferential statistical analysis. The research is oriented toward a positivist approach, which posits that social phenomena can be measured, analyzed, and explained based on empirical data, thereby yielding conclusions that can be generalized to the research population.

The research results indicate that the adoption of digital business technology has a positive impact on the development of bonsai businesses. Most respondents utilize social media platforms—such as WhatsApp Business, Facebook Marketplace, Instagram, and TikTok—as their primary promotional channels. Furthermore, some business owners have also leveraged national online marketplaces to expand their market reach beyond the island of Java. The use of digital technology enables vendors to showcase their product catalogs more attractively through photos and videos, thereby increasing interest among potential customers.

Table 1. Characteristics of Respondents

Characteristic	Category	Percentage %
Gender	Male	82
	Female	18
Business Duration	1-3 years	28
	4-6 years	39
	> 6 years	33

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Use of Digital Media	Social Media	91
	Marketplace	58
	Digital Financing	67
	Business Website	15

As shown in Table 1, the majority of bonsai plant vendors in Probolinggo Regency are male (82%), while 18% are female. Most respondents have been operating their bonsai businesses for 6–10 years. Social media is the most widely used form of digital media, employed by 91% of the respondents.

Research findings indicate that the utilization of digital technology has brought about changes in marketing, customer communication, and transaction efficiency. Prior to using digital media, marketing was conducted through conventional methods, such as ornamental plant exhibitions, customer recommendations, and direct sales at the business location. Following the adoption of digital technology, the marketing process has expanded, no longer constrained by geographical boundaries. Customers can now place orders online, consult on various types of bonsai, and complete payments via digital banking systems.

In addition to improved market access, the research shows an increase in sales revenue for the majority of respondents. Business owners noted that the frequency of transactions rose, particularly after they began consistently posting promotional content and leveraging paid advertising features on social media. Consumer trust has also strengthened, bolstered by customer reviews, documentation of plant care processes, and more responsive communication through instant messaging applications.

In terms of business management, the use of digital technology assists business owners with tasks such as recording transactions, managing plant inventory, and preparing simple financial reports through digital applications. Although most still rely on free applications, the utilization of such technology enhances operational efficiency and facilitates business decision-making.

Table 2. Regression Analysis Results

Variable	B	Std. Error	Beta	t	Sig
Constant	12, 473	2,184		5,694	0,000
Digital Business Technology	0,738	0,067	0,742	11,015	0,000

This equation indicates that for every one-unit increase in digital business technology, business development will increase by 0.738 units.

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Table 3. Coefficient of Determination (R^2)

Model	R	R Square	Adjusted R Square
1	0,742	0,551	0,546

From Table 3, it can be concluded that the coefficient of determination is 55.1%. This means that 55.1% of business development is influenced by digital business technology, while the remaining 44.9% is influenced by factors outside the research model.

Table 4. Partial Test (t-test)

Variable	t calculated	t table	Sig.	Decision
Teknologi Bisnis Digital	11,015	1,984	0,000	H_1 diterima

From Table 4, it can be concluded that the t-calculated value (11.015) is greater than the t-table value (1.984), with a significance level of 0.000 < 0.05. Therefore, digital business technology has a positive and significant effect on the business development of bonsai plant traders.

Table 5. Simultaneous Test (F-test)

Model	F Calculated	F Table	Sig.
Regression	121,334	3,94	0,000

The F-test results show an F-calculated value of 121.334, which is greater than the F-table value of 3.94, with a significance level of 0.000. This indicates that the regression model is suitable for explaining the relationship between digital business technology and business development.

The statistical analysis reveals that digital business technology has a positive and significant impact on the business development of bonsai plant traders in Probolinggo Regency. This is evidenced by a regression coefficient of 0.738 and a t-calculated value of 11.015, with a significance level of 0.000 (<0.05). Furthermore, an R^2 value of 55.1% indicates that more than half of the variation in business development can be explained by the level of digital business technology utilization. These findings suggest that the use of social media, online marketplaces, digital payment systems, and online communication can enhance marketing, expand consumer reach, increase sales turnover, and strengthen the competitiveness of bonsai plant businesses, thereby supporting a sustainable economy.

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CONCLUSION

This research demonstrates that digital business technology has a positive and significant impact on the business development of bonsai plant traders in Probolinggo Regency. The utilization of social media, online marketplaces, digital payment systems, and communication applications has been shown to expand market reach, improve operational efficiency, increase sales turnover, and strengthen business competitiveness. Statistical analysis indicates that digital business technology makes a tangible contribution to business development, thereby supporting the realization of a sustainable economy

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