



The Role of Innovation in Mediating the Relationship between Entrepreneurial Orientation and Digital Literacy on Sustainability Performance (A study of Developing Tourism Villages in Jembrana Regency)



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Abstract

This study examines the relationships among entrepreneurial orientation, digital literacy, innovation, and sustainability performance in Jembrana's developing tourist villages. Focusing on how entrepreneurial mindset and digital skills directly influence sustainability, and how innovation mediates these effects, the research addresses the concept of sustainability across economic, social, environmental, and technology dimensions. Conducted in Blimbingsari and Ekasari tourist villages, the study surveyed 170 respondents using a quantitative approach with Structural Equation Modelling–Partial Least Squares (SEM-PLS) analysis. Findings indicate that entrepreneurial orientation, digital literacy, and innovation have a significant and positive impact on sustainability performance. Additionally, both entrepreneurial orientation and digital literacy have a substantial and positive influence on innovation. The findings are expected to contribute to the development of tourism villages in Jembrana Regency by strengthening entrepreneurial orientation, enhancing digital literacy, and implementing innovative practices. The practical implications of this research encourage tourism village managers in Jembrana Regency to focus on increasing their willingness to take risks in exploring new development opportunities, enhancing innovation in marketing activities, and improving knowledge in digital content creation.

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1 Introduction

The Indonesian government, through the Ministry of Villages, Development of Disadvantaged Regions, and Transmigration, has prioritized Village Tourism development for 2024. This initiative aims to advance the tourism sector at the village level, foster sustainable local economies, and support growth in remote areas (Humas Kemendes, 2023). This focus is a response to the growing number of Village Tourism sites in Indonesia, which currently stands at 6,014 across the archipelago. A Village Tourism area encompasses the entire atmosphere and authenticity of a village, including daily life, customs, socio-cultural aspects, village layout, and unique architectural styles (Wijayanti & Purwoko, 2022).

In Indonesia, Village Tourism is categorized into four development stages: pioneering, developing, advanced, and independent. The developing stage is a crucial transition point for observing factors that impact a Village Tourism site's sustainable performance. At this stage, tourism activities are underway, and the community is starting to feel the effects, but stability and sustainability still need strengthening. Developing villages also show active social and economic dynamics and are generally more open to change and innovation. This contrasts with pioneering villages, which are still in the preparatory phase, and independent villages, which have relatively established systems. In Jembrana Regency, Blimbingsari Tourism Village and Ekasari Tourism Village are classified as developing Village Tourism sites.

Overtourism in South Bali, driven by an imbalanced distribution of visitors across the island, is a significant concern. To counter this, the government, via the Ministry of Tourism, aims to redistribute tourists to West and North Bali, diversifying travel options (Kemenparekraf, 2024). This initiative highlights the need for local communities and tourism businesses to develop their potential, as awareness of these regions remains low. To boost these areas, the Ministry of Tourism and Creative Economy launched the 3B Tourism Package (Banyuwangi, West Bali, and North Bali). This program targets attracting 10-15% of Bali's 7 million tourists. This presents a key opportunity for developing Village Tourism sites in Jembrana Regency to enhance and promote their unique attractions, a crucial focus for the Jembrana local government.

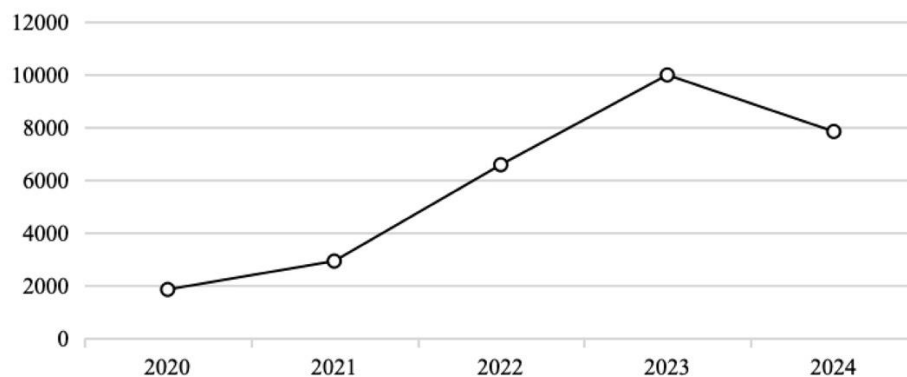


Figure 1. Chart of Tourist Visits to Developing Tourism Villages in Jembrana Regency
Source: Badan Pusat Statistik Jembrana Regency

Figure 1 reveals a decline in tourist visits to Jembrana's Developing Tourism Villages in 2024 compared to the previous year. This highlights the need for these villages to leverage their unique resources to achieve competitive advantage, as per the Resource-Based View (RBV) theory (Barney, 1991). The primary resource for Village Tourism is its human capital—the local community itself. Their active involvement is crucial for successful management (Salsabila & Fauzi, 2021). However, managing diverse community characteristics can lead to internal conflicts. Therefore, social capital emerges as a key factor for the successful development of these tourism villages (Wijayanti & Purwoko, 2022).

Organizational performance reflects an organization's ability to effectively apply management functions (Handayani et al., 2023). Sustainability, as defined by Hussain et al. (2023), means meeting present needs without compromising future generations' ability to meet theirs, encompassing economic, social, and environmental dimensions. The goal of sustainable tourism is to protect and enhance the environment while fulfilling both human needs and the demands of the tourism industry, ultimately improving quality of life (Wang et al., 2024). Unsustainable

tourism can severely damage natural environments and communities, leading to pollution, habitat disruption, and cultural erosion. Therefore, evaluating performance using sustainability indicators is crucial to guide development and optimize resource use (Muhammadiyah et al., 2021).

Improving performance in Jembrana's Developing Tourism Villages demands identifying and leveraging innovative, valuable, and unique resources while embracing risk (Isichei et al., 2020). However, these villages face significant hurdles, including low competency among village officials, a lack of youth entrepreneurial interest, and insufficient knowledge in product packaging and digital marketing. Although digital capabilities offer a competitive edge, managers often lack digital literacy. For example, Blimbingsari Tourism Village's Integrated Tourism Village System (IToViS) is underutilized due to limited staff proficiency. Beyond community participation, digital technology is crucial for advancing Village Tourism. The current digital era has led to digital tourism, recognized by the Ministry of Communication and Informatics (2019) as an effective strategy for promoting local potential. Implementing digital tourism in Indonesian villages requires strong community involvement in integrating digital tools. Digital literacy, defined as the ability to effectively use digital technology for accessing, managing, and creating information (Setyaningsih et al., 2019), is key to this. While some research (Bidasari et al., 2023) shows a positive link between digital literacy and performance, other studies (Razak et al., 2022) have found no significant relationship. Nevertheless, acknowledging digital literacy's importance prepares communities for an evolving technological landscape (Imjai et al., 2025).

A key focus in boosting an enterprise's ultimate goal revenue is a strong entrepreneurial orientation, which fosters business sustainability as a positive response to business growth (Sugiyarti et al., 2018). Initially, communities in developing tourist villages often show low participation and awareness of tourism's economic potential, requiring ongoing motivation from local and government bodies. This indicates a lack of entrepreneurial mindset, which includes the courage to take risks. For instance, a reluctance among managers in Jembrana Regency's developing tourist villages to prioritize tourism facilities like culinary and lodging services stems from a fear of financial losses due to low tourist visits. This risk aversion highlights a critical need to enhance entrepreneurial orientation to foster innovation and strategic decision-making in village management.

A strong entrepreneurial orientation is widely recognized as a foundation for achieving competitive advantage (Abu-Rumman et al., 2021) and has been consistently linked to positive performance outcomes (Al Mamun & Fazal, 2018; Meekaewkunchorn et al., 2021; Alvarez-Torres et al., 2019; Basco et al., 2020). While some studies suggest no significant relationship (Kristinae et al., 2023), integrating entrepreneurship and orientation is generally seen as a major contributor to superior performance (Buli, 2017). Therefore, cultivating entrepreneurial traits, especially risk-taking, is vital for these villages to leverage their potential and achieve sustainable growth.

Innovation is a vital part of entrepreneurial orientation, driving new services, products, and technologies (Fadda, 2018). It's essentially a mindset focused on creativity, new ideas, and experimentation (Chavez et al., 2020). While its direct impact on business performance can vary (Tresna & Raharja, 2019), many studies confirm innovation's positive influence on entrepreneurial performance (Cho & Lee, 2018). It's crucial for growth (Firmansyah & Dede, 2022) and is deeply linked to creativity, encompassing personality and knowledge (Mcmullan & Kenworthy, 2015). Research consistently shows that product innovation positively impacts SME business performance, even for those affected by the pandemic (Yaskun et al., 2023; Christa & Kristinae, 2021).

A study by Pedit et al. (2024) in a developing Jembrana tourist village revealed declining visitor numbers, both international and domestic, due to a lack of entertainment, attractions, and culinary options. This issue underscores the critical need for collaborative efforts from the community, government, village officials, and academics, as prolonged inaction could negatively impact the village's tourism. Effective management skills are crucial for rural tourism resource strategies (Rosalina et al., 2023). Villages must manage government funds by implementing creative community-wide initiatives (Arifudin, 2020). Successful tourist village management positively shifts community lifestyles across social, economic, and environmental sustainability aspects. Improving performance requires leveraging resources, identifying valuable and unique innovative ideas, being proactive, and taking calculated risks despite significant challenges (Parlyna et al., 2022). Given these challenges and opportunities, this research aims to explain how innovation mediates the influence of entrepreneurial orientation and digital literacy on sustainability performance.

Resource-Based View (RBV)

Wernefelt (1984) posits that the Resource-Based View (RBV) Theory is a strategic management approach emphasizing the crucial role of resources as the foundation for achieving sustainable competitive advantage. This theory underscores the importance of a resource-centric perspective rather than solely focusing on produced goods. Wernefelt (1984) defines resources as anything that can constitute a firm's strength or weakness. The RBV framework explains that each company possesses a unique bundle of resources, such as technological skills or specialized knowledge, which consequently creates strategic differentiation among firms within the same industry.

Organizational success hinges on controlling intangible resources. The Resource-Based View (RBV) emphasizes that capabilities are key to performance and competitive advantage (Fan et al., 2021). This theory is highly applicable for tourist villages seeking sustainable competitive advantage, enabling them to foster strong environmental stewardship and collaborations for long-term viability. Based on Resource-Based View (RBV) theory, entrepreneurial orientation is a key business strategy for boosting performance (Kristinae et al., 2023). RBV highlights that effectively managing a business and identifying competitors are crucial capabilities, directly reflecting entrepreneurial orientation (Song et al., 2019).

In today's digital world, organizations need to strategically use digital resources for competitive advantage. The Resource-Based View (RBV) emphasizes continuous innovation and reinvesting profits into new technologies (Wernefelt, 1984). Digital literacy is a key resource, enabling effective technology use. Research by Willie (2024) highlights that strategically using digital resources, including human capital, boosts competitiveness and long-term growth. RBV helps organizations leverage digital assets like data, platforms, and talent management, fostering agility and partnerships to thrive in competitive digital markets.

The Resource-Based View (RBV) provides a framework for understanding how entrepreneurial orientation, digital literacy, and innovation act as strategic resources crucial for achieving sustainability performance. Entrepreneurial orientation signifies a firm's proactive, risk-taking, and innovative capabilities, which are valuable and hard to imitate. Digital literacy enables effective technology use for information-driven development, a key asset in digital transformation. Innovation, as an actualized resource, when well-managed, strengthens long-term competitive advantage. Tourist villages that integrate these aspects effectively leverage internal resources, thereby enhancing their economic, social, and environmental sustainability performance.

Sustainability Performance

Tourist village performance reflects its management effectiveness, measured by alignment with established goals (Handayani et al., 2023). Sustainability performance in this context evaluates progress towards sustainable tourism in rural areas (Hussain et al., 2023), ensuring current needs are met without compromising future generations. This involves interconnected economic, social, and environmental aspects. Effective management impacts community lifestyles across these three dimensions (Wijayanti & Purwoko, 2022). Improving performance necessitates leveraging resources by identifying and exploiting valuable, unique, proactive, and risk-taking innovative ideas, even amidst significant challenges (Parlyna et al., 2022).

Sustainability performance in tourist villages can be evaluated using the Triple Bottom Line (TBL) framework, a crucial element in sustainable development. Sustainable development itself is an endeavor encompassing economic, social, environmental, and even cultural aspects, aimed at meeting present needs without compromising the ability of future generations to meet their own (Wattimury & Kurniawati, 2022). Key indicators for tourist village performance extend across various sustainability dimensions, including environmental, economic, social, and technological factors (Hussain et al., 2023). The TBL principle emphasizes that an organization's success should not be solely measured by financial metrics, but also by its positive impact on society and the environment (Ramadhani & Hidayati, 2024). Ultimately, performance relates to the accountability of individuals and organizations in executing their designated responsibilities.

Entrepreneurial Orientation

Entrepreneurial orientation is a vital resource for enhancing understanding of the external environment and fostering internal innovation and new product development (Hidayat et al., 2023). As a core strategic and organizational-level phenomenon, strong EO is crucial for competitive advantage and decision-making. It represents a valuable, inimitable intangible resource, enabling organizations to identify, analyze, and seize new opportunities. Consequently, EO acts as a source of sustainable competitive advantage, boosting firm performance (Fan et al., 2021). At its root, EO

embodies the disposition, character, and traits of individuals brave enough to transform novel ideas into reality (Indah et al., 2023).

The Resource-Based View (RBV) suggests that a strong entrepreneurial orientation is key to business success. It highlights the importance of applying skills to manage operations, identify competitors, and seize opportunities (Song et al., 2019). This orientation fosters innovation, leading to efficient use of time, labor, and resources, ultimately enhancing business performance and creating a sustainable competitive advantage (Fan et al., 2021). While many studies, like Gomes et al. (2022), (Tresna dan Raharja, 2019) and (Yaskun et al., 2023) support a strong link between entrepreneurial orientation and performance, some, such as Kristinae et al. (2023), find no direct significant effect, implying other variables might mediate this relationship.

Research consistently shows a significant link between entrepreneurial orientation and innovation. Seo (2020), found that a multiplicative entrepreneurial orientation approach is more effective in driving technological and product innovation than a summative one. Studies by Yaskun et al. (2023), Shaher & Ali (2020), and Iqbal et al. (2021) further support that entrepreneurial orientation positively and significantly influences innovation, demonstrating its role in fostering creativity and driving product or service development within organizations. Furthermore, an entrepreneur's entrepreneurial orientation helps them continually develop their business, leading to innovation as a competitive advantage (Nursal et al., 2022). Gomes et al. (2022) also highlight that entrepreneurial orientation enhances an organization's proactiveness, risk-taking, and willingness to innovate, positioning it as a mediator variable between entrepreneurial orientation and organizational performance. Consequently, the following hypotheses are formulated:

H1: Entrepreneurial orientation significantly and positively affects sustainability performance

H3: Entrepreneurial orientation significantly and positively affects innovation

Digital Literacy

Digital literacy encompasses the critical skills needed to navigate digital information (Pangrazio et al., 2020) and the ability to effectively use digital tools for accessing, managing, analyzing, and creating knowledge, as well as for recreation and social interaction (Setyaningsih et al., 2019). It's crucial for professional performance, evolving to include communicating and thinking within digital media (Dahman et al., 2023). The goal is to enhance competitive human resources (Novitasari & Fauziddin, 2022). Increased social media use for promotion correlates with higher profits (Zahro, 2019). Most research, including Firmansyah & Dede (2022), confirms digital literacy's positive impact on performance by easing information access and comprehension (Metris & Priambodo, 2023), though some studies like Razak et al. (2022) show no significant partial effect.

Digital literacy directly influences innovation (Firmansyah & Dede, 2022). For instance, it's critically needed to support sustainable micro-enterprise management in Thailand's economy (Imjai et al., 2025). Studies, like Setyadi et al. (2025), show digital literacy has the strongest impact on innovation performance, underscoring its role in enabling effective engagement with modern technology. High digital literacy allows organizations to effectively adopt and implement innovative technologies. Furthermore, digital literacy innovation involves developing frameworks and tools to boost competence (Smith & Storrs, 2023) and enhance the effectiveness of innovation implementation through learning (Mentzer et al., 2024). Consequently, the following hypotheses are formulated:

H2: Digital Literacy significantly and positively affects sustainability performance

H4: Digital Literacy significantly and positively affects innovation

Innovation

Innovation in tourist village management demonstrates responsiveness to evolving conditions and perceptions, and it arises from assessing effectiveness rather than spontaneity (Buchori et al., 2023). Innovation embodies creativity, a willingness to explore new ideas, and experimentation through introducing new products and technologies (Chavez et al., 2020). It aligns with entrepreneurial orientation, which includes leveraging innovative ideas, taking risks, and being proactive (Parlyna et al., 2022). High innovation, coupled with achieving strategic goals, optimally enhances organizational performance (Donkor et al., 2018).

Many studies confirm a positive influence, with Christa & Kristinae (2021) showing this for 300 SMEs in Kalimantan and Bali during the pandemic. Similarly, Muraleedharan & Velmurugan (2025) found innovation benefits performance, particularly for culinary SMEs. Innovation is seen as crucial for linking knowledge management to improved outcomes (Isichei et al., 2020; Hidayat et al., 2023). Based on that, the hypotheses are formulated:

H5: Innovation significantly and positively affects sustainability performance

Mediating Effect

While some studies, like Yaskun et al. (2023), and Tresna & Raharja (2019), suggest a direct positive link between entrepreneurial orientation and performance, others, such as Kristinae et al. (2023), find no significant direct effect, indicating a need for mediating variables. Entrepreneurial orientation is crucial for understanding the external environment and fostering internal innovation (Hidayat et al., 2023). Innovation, in turn, is shown to mediate the relationship between entrepreneurial orientation and organizational performance (Nursal et al., 2022; Fan et al., 2021; Hidayat et al., 2023), implying that entrepreneurial orientation's impact on performance becomes more significant when facilitated by innovation.

Digital literacy generally enhances performance (Dahman et al., 2023), influencing employee output. However, some research, like Razak et al. (2022), indicates that its direct impact on overall organizational performance isn't always significant. Firmansyah & Dede (2022) highlight that digital literacy indirectly affects entrepreneurial performance through innovation, suggesting that innovation acts as a crucial mediating variable in this relationship. Therefore, the following hypotheses are formulated:

H6: Innovation mediates the relationship between entrepreneurial orientation and sustainability performance

H7: Innovation mediates the relationship between digital literacy and sustainability performance

2 Materials and Methods

This study employed a mixed-methods approach for data collection. Interviews were conducted with the Head of the Tourist Village Committee and the Village Head. These discussions aimed to uncover management challenges and gain in-depth insights into the target respondents. Additionally, questionnaires contain written statements about the research object.

Sample and Sampling Method

This study was conducted in: Blimbingsari and Ekasari villages. Following Hair et al.'s (2019) rule of thumb for PLS-SEM, which suggests a sample size of 5 to 10 times the number of indicators, and with 20 indicators used, the recommended sample size is 100 to 200 respondents. The sampling method used in this study is purposive sampling, where participants had to be at least 18 years old, non-managers, and residents of these developing tourist villages in Jembrana.

Data Collection and Analysis Procedure

Data for this study were collected by distributing questionnaires to 200 residents in Jembrana Regency's developing tourist villages. The source of questionnaire indicators is presented in the Table below:

Table 1
Source of Questionnaire Indicators

Construct	Number of Items	Source
Sustainability Performance (Y)	9	Chavez et al. (2020) Hussain et al. (2023) Al Mamun and Fazal (2018); Fadda (2018); Chavez et al. (2020); Ferreira et al. (2021b); Wahyudiyono (2021); Indah et al. (2023); Ataei et al. (2024); Taneja et al. (2025); Suder et al. (2025)
Entrepreneurial Orientation (X1)	3	Rodríguez-De-dios et al. (2016); Iordache et al. (2017); Firmansyah and Dede (2022); Simanjuntak et al. (2025)
Digital Literation (X2)	4	Shaher dan Ali (2020); Iqbal et al. (2021); Firmansyah dan Dede (2022) dan Yaskun et al. (2023)
Innovation (M)	4	

For each question, responses ranged from 1 (strongly disagree) to 5 (strongly agree) on a Likert scale. This study used PLS-SEM via SmartPLS software to analyze and answer all hypotheses. The analysis process started with descriptive analysis, followed by assessing the validity and reliability of the questionnaire's measurement indicators. It then continued by evaluating the overall model's validity, examining the structural model, and then testing all the hypotheses.

Research Framework

Following the research objectives and identified variables, the research framework for this study is an elaboration derived from the theoretical foundations and literature review employed to address the research problem, as follows:

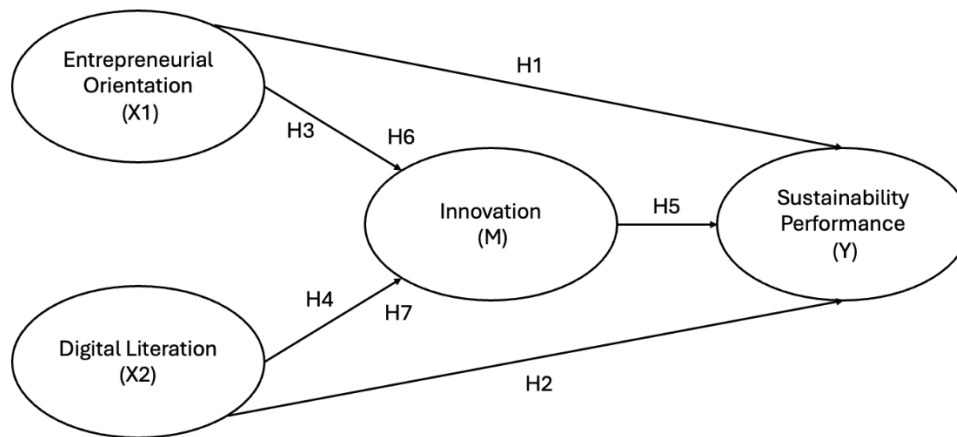


Figure 2. Research Framework

3 Results and Discussions

3.1 Result

This study included 170 qualified respondents, revealing a demographic profile primarily characterized by males (57.1%) and individuals aged 46-55 years (27.6%), suggesting this group's active engagement and economic stability in village tourism-related activities. In terms of occupation, the largest group was private employees (33.5%), followed by others (22.9%), entrepreneurs (21.8%), farmers (15.3%), and civil servants (6.5%). A significant majority (97.1%) had resided in the area for over 10 years.

Descriptive Analysis

Descriptive analysis was conducted to ascertain respondent characteristics and their responses to each statement. All variables were described using mean values. Based on the established interval ranges, measurement criteria for the constructs are presented in Table 2. These criteria indicate that higher mean values reflect more favorable respondent responses to the respective items and variables.

Table 2
Variable Class Interval Category

Class Interval	Category
1,00 - 1,80	Very Poor / Very Low
1,81 - 2,60	Poor / Low
2,61 - 3,40	Fair / Medium

3,41 - 4,20
4,21 - 5,00

Good / High
Very Good / Very High

The summary of average value for each variable is presented in Table 3 Below:

Table 3
Description of Research Variable Value

Variable	Average Value
Sustainability Performance (Y)	4.27
Entrepreneurial Orientation (X1)	4.24
Digital Literacy (X2)	3.99
Innovation (M)	4.00

The overall mean score for the entrepreneurial orientation variable is 4.24. This suggests that respondents perceive the Developing Tourist Villages in Jembrana as having a very high entrepreneurial orientation. The indicator with the highest mean score relates to respondents affirming that these tourist villages already demonstrate an innovative attitude in managing their tourism activities. This strongly contributes to the very high entrepreneurial orientation observed in these villages.

The descriptive analysis results, presented in Table 3, indicate that the overall mean score for digital literacy is 3.99. This suggests respondents perceive the Tourist Villages as having high digital literacy. The highest-rated indicators show that the villages effectively utilize necessary digital devices and successfully provide accessible information to the community. These factors significantly contribute to the villages' notably high level of digital literacy.

The mean score for the innovation variable is 4.00, indicating that the majority of respondents believe the Tourist Villages already exhibit a high tendency toward innovation. The questionnaire distribution revealed that respondents perceive these villages as effectively optimizing operational processes by enhancing village facility maintenance. This factor significantly contributes to the high level of innovation observed in the Developing Tourist Villages within Jembrana Regency.

The descriptive analysis indicates that sustainable performance achieved an average score of 4.27, signifying that respondents perceive the Tourist Villages as demonstrating a very high level of sustainable performance. The majority of respondents in this study believe that these tourist villages actively preserve natural resources within their tourism destinations, a practice that significantly contributes to their exceptionally high sustainable performance.

Inferential Statistical Analysis (PLS-SEM)

Preliminary assessment was conducted to ensure the validity and reliability of the research instrument's indicators. Validity was established if an item's correlation coefficient with the total score exceeded 0.30 (Alpha $\alpha = 0.05$), confirming it accurately measures the intended construct. Reliability was determined using Cronbach's Alpha ($\alpha \geq 0.70$) to assess the one-dimensionality of items for the latent variables (entrepreneurial orientation, digital literacy, innovation, and sustainable performance). The results of this initial validity test are presented in Table 3.

Table 4
Instrument Validity and Reliability Test

	Variable	Pearson Correlation	Criteria	Explanation
Instrument Validity	Sustainability Performance (Y)	0.685 - 0.885	> 0.3	Valid
	Entrepreneurial Orientation (X1)	0.487 - 0.642	> 0.3	Valid
	Digital Literacy (X2)	0.526 - 0.752	> 0.3	Valid

Dewi, N. M. R. C. K., Sukawati, T. G. R., Sukaatmadja, I. P. G., & Rahanatha, G. B. (2025). The role of innovation in mediating the relationship between entrepreneurial orientation and digital literacy on sustainability performance: A study of developing tourism villages in Jembrana Regency. International Research Journal of Management, IT and Social Sciences, 12(4), 240–256. <https://doi.org/10.21744/irjm.v12n4.2538>

	Innovation (M)	0.611 - 0.821	> 0.3	Valid
	Variable	Cronbach's Alpha	Criteria	Explanation
Instrument Reliability	Sustainability Performance (Y)	0.948	> 0.7	Valid
	Entrepreneurial Orientation (X1)	0.728	> 0.7	Valid
	Digital Literacy (X2)	0.814	> 0.7	Valid
	Innovation (M)	0.859	> 0.7	Valid

Table 4 shows that all instruments for entrepreneurial orientation, digital literacy, innovation, and sustainable performance are valid, with item-to-total score correlations above 0.30 and $p < 0.05$. This confirms their suitability for the research. Additionally, all instruments are reliable, as indicated by Cronbach's Alpha coefficients greater than 0.70, making all variables dependable for the study.

A rigorous evaluation was conducted to confirm the validity and reliability of the measurement model, utilizing Convergent Validity, Discriminant Validity, and Composite Reliability tests. The results, detailed in Table 5 below, confirmed that all indicators accurately and consistently measured their respective latent variables. All items and variables met the criteria for convergent validity, demonstrating the empirical soundness of the constructs. Additionally, each construct's composite reliability value exceeded 0.70, indicating acceptable reliability levels. To further ensure validity, a discriminant validity test will compare cross-loading values between indicators within the same construct and those from different constructs.

Table 5
Convergent Validity and Composite Reliability Test

	Variable	Outer Loading	Criteria	Explanation	
Convergent Validity	Sustainability Performance (Y)	0.710 - 0.803	> 0.7	Valid	
	Entrepreneurial Orientation (X1)	0.808 - 0.852	> 0.7	Valid	
	Digital Literacy (X2)	0.746 - 0.836	> 0.7	Valid	
	Innovation (M)	0.776 - 0.863	> 0.7	Valid	
		Variable	AVE	Criteria	Explanation
		Sustainability Performance (Y)	0.568	> 0.5	Valid
		Entrepreneurial Orientation (X1)	0.690	> 0.5	Valid
		Digital Literacy (X2)	0.656	> 0.5	Valid
		Innovation (M)	0.691	> 0.5	Valid
		Variable	Cronbach Alpha	Criteria	Explanation
Composite Reliability		Sustainability Performance (Y)	0.905	> 0.7	Reliable
		Entrepreneurial Orientation (X1)	0.775	> 0.7	Reliable
		Digital Literacy (X2)	0.826	> 0.7	Reliable
		Innovation (M)	0.851	> 0.7	Reliable
		Variable	Composite Reliability	Criteria	Explanation
		Sustainability Performance (Y)	0.905	> 0.7	Reliable
		Entrepreneurial Orientation (X1)	0.776	> 0.7	Reliable
		Digital Literacy (X2)	0.836	> 0.7	Reliable
	Innovation (M)	0.861	> 0.7	Reliable	

The result shown in Table 5, convergent validity analysis confirms that all indicators are valid. This is evidenced by Outer Loading values exceeding 0.7, and all variables having an Average Variance Extracted (AVE) greater than 0.50. These results confirm the empirical soundness and validity of all variables used in this study. Variables are considered reliable if their composite reliability and Cronbach's Alpha values exceed 0.70. In this study, all variables achieved composite reliability values above 0.70. Consequently, the reliability analysis, employing both Cronbach's Alpha and Composite Reliability, confirms that all constructs possess good internal consistency, rendering them suitable for the proposed model's evaluation.

Table 6
Discriminant Validity - Cross Loading

	X1 (Entrepreneurial Orientation)	X2 (Digital Literacy)	M (Innovation)	Y (Sustainability Performance)
IN1	0,689	0,587	0,862	0,696
IN2	0,642	0,542	0,863	0,651
IN3	0,641	0,530	0,822	0,601
IN4	0,540	0,502	0,776	0,461
KK1	0,540	0,508	0,604	0,803
KK2	0,592	0,459	0,569	0,802
KK3	0,567	0,411	0,514	0,739
KK4	0,553	0,515	0,553	0,757
KK5	0,573	0,564	0,569	0,780
KK6	0,551	0,476	0,516	0,729
KK7	0,575	0,525	0,587	0,724
KK8	0,528	0,552	0,512	0,734
KK9	0,515	0,446	0,540	0,710
LD1	0,495	0,835	0,569	0,510
LD2	0,524	0,820	0,529	0,534
LD3	0,436	0,746	0,403	0,466
LD4	0,604	0,836	0,587	0,610
OK1	0,832	0,529	0,621	0,563
OK2	0,852	0,507	0,598	0,665
OK3	0,808	0,559	0,672	0,605

Table 6 demonstrates that all latent variables meet discriminant validity requirements. This is evidenced by each variable's correlation with its indicators being above 0.7, and this value being higher than its correlation with any other latent variable.

Table 7
Evaluation Result of Goodness of Fit Model

Structure Model	Endogen Variable	R ²
1	Innovation	0,623
2	Sustainability Performance	0,641
Qualification:	$Q^2 = 1 - (1 - R_1^2)(1 - R_2^2)$	
	$Q^2 = 1 - (1 - 0,623)(1 - 0,641)$	
	$Q^2 = 1 - (0,377)(0,359)$	
	$Q^2 = 0,864$	

The models' R-squared (R²) values, presented in Table 7, indicate their explanatory power: entrepreneurial orientation and digital literacy collectively explain 62.3% (R²=0.623) of the variability in innovation, with the remaining 37.7% attributed to unexamined factors. Furthermore, entrepreneurial orientation, digital literacy, and innovation together account for 64.1% (R²=0.641) of the variability in sustainable performance, leaving 35.9% to other variables outside the scope of this study.

Hypothesis Testing

PLS-SEM method on the bootstrapping feature is the method to test all the hypotheses. The result of hypothesis testing is shown in Figure 2 below.

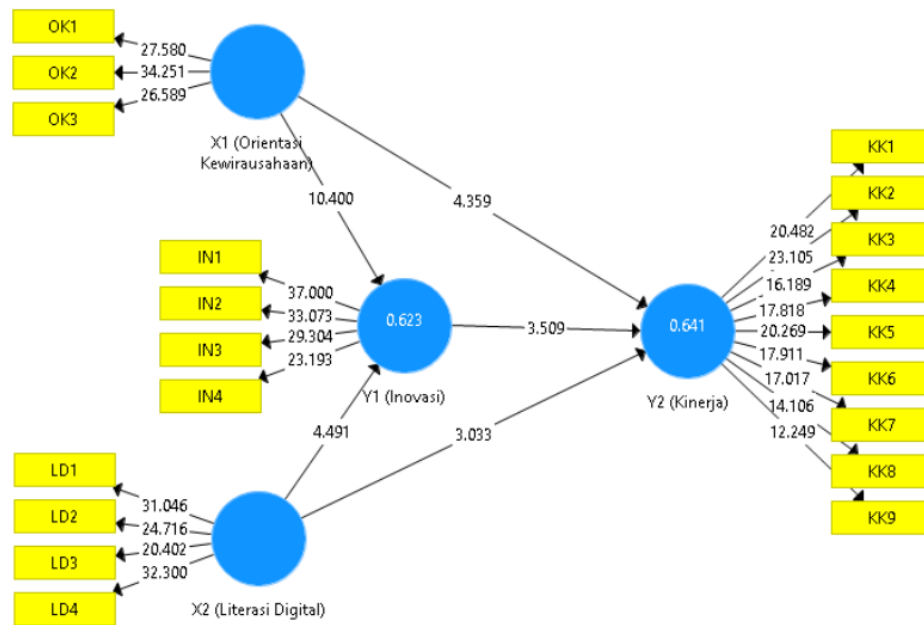


Figure 3. PLS Bootstrapping Empirical Model of Research Variables

For hypothesis testing, the null hypothesis (H_0) was accepted if the T-statistic was less than or equal to the t-table value of 1.96, or if the P-value was greater than the alpha level of 0.05. Conversely, the alternative hypothesis (H_a) was accepted if the T-statistic exceeded 1.96, or if the P-value was less than or equal to 0.05. The results indicate that all proposed hypotheses were accepted. A summary of these findings is presented in Table 7.

Table 7
Summary of Hypothesis Test Result

Hypothesis	Connection	Original Sample (β)	T-statistics	P-value	Explanation
H ₁	X1 -> Y	0.347	4.359	0.000	Accepted
H ₂	X2 -> Y	0.226	3.033	0.003	Accepted
H ₃	X1 -> M	0.580	10.400	0,000	Accepted
H ₄	X2 -> M	0.279	4.491	0.000	Accepted
H ₅	M -> Y	0.322	3.509	0.000	Accepted
H ₆	X1 -> M -> Y	0.187	3.286	0.001	Accepted
H ₇	X2 -> M -> Y	0.090	2.496	0.013	Accepted

Table 7 shows that the seven hypotheses that have been formulated were acceptable.

3.2 Discussion

H1: Entrepreneurial orientation significantly and positively affects sustainability performance

The analysis reveals a significant positive influence of entrepreneurial orientation on sustainability performance in Jembrana's developing tourist villages. This means stronger entrepreneurial orientation correlates with higher sustainability performance, and vice versa. This finding aligns with the Resource-Based View (RBV), which highlights how entrepreneurial skills, such as managing operations, identifying competitors, and seizing opportunities, feed into entrepreneurial orientation (Song et al., 2019). These capabilities improve efficiency and resource utilization, fostering innovation and ultimately leading to sustainable competitive advantage and enhanced performance (Fan et al., 2021). This result is consistent with studies by Gomes et al. (2022), who found a strong link between entrepreneurial orientation and performance, emphasizing entrepreneurial orientation as a managerial attitude that drives strategic development and decision-making. Other research, including studies on Bandung's creative industry (Tresna &

Raharja, 2019) and Lamongan's restaurant SMEs (Yaskun et al., 2023), further supports this positive relationship between entrepreneurial orientation and performance across diverse contexts.

H2: Digital Literacy significantly and positively affects sustainability performance

This analysis found that digital literacy significantly and positively impacts sustainability performance in Jembrana's developing tourist villages (H2 accepted). This implies that as digital literacy improves, so does the sustainability performance of these villages, and vice-versa. This finding aligns with previous research by Zahro (2019), who found that increased social media use for promotion leads to greater profits. Firmansyah & Dede (2022) also support this, demonstrating digital literacy's positive link to performance. Furthermore, digitally literate individuals find it easier to access, understand, and apply job-relevant information (Metris & Priambodo, 2023). Bidasari et al. (2023) further validate the positive influence of digital literacy on performance, showing that deep engagement with digital media, especially for business activities and promotion, yields benefits for organizations.

H3: Innovation significantly and positively affects sustainability performance

The analysis confirms a significant positive relationship between innovation and sustainability performance (H3 accepted). This indicates that higher levels of innovation within tourist villages directly contribute to improved sustainability outcomes, and conversely, less innovation leads to diminished performance. This finding aligns with numerous studies. For instance, Christa & Kristinae (2021) demonstrated innovation's beneficial impact on 300 SMEs in Kalimantan and Bali, even amidst pandemic challenges. Similarly, Muraleedharan & Velmurugan (2025), focusing on culinary SMEs in North Bekasi, also found that innovation positively influences performance. This consistent evidence highlights innovation's crucial role in connecting effective knowledge management with enhanced sustainability performance, a point further supported by Isichei et al. (2020) and Hidayat et al. (2023). These findings collectively emphasize the vital contribution of innovation to overall organizational success and sustainability.

H4: Entrepreneurial orientation significantly and positively affects innovation

This analysis confirms that entrepreneurial orientation significantly and positively affects innovation (H4 accepted). This means that a stronger entrepreneurial orientation leads to greater innovation in Jembrana's developing tourist villages, and vice versa. This finding is consistent with previous research. Seo (2020), for instance, found that a multiplicative entrepreneurial orientation approach is more effective in fostering technological and product innovation than a summative one. Studies by Yaskun et al. (2023) on Indonesian SMEs, along with Shafer & Ali (2020) and Iqbal et al. (2021), further support this positive relationship, showing that entrepreneurial orientation encourages creativity and innovation in product and service development. Moreover, an entrepreneurial mindset empowers individuals to continuously develop their businesses, with innovation emerging as a key competitive advantage (Nursal et al., 2022). Gomes et al. (2022) highlight that entrepreneurial orientation boosts an organization's proactivity, risk-taking, and willingness to innovate, positioning it as a critical precursor to organizational performance.

H5: Digital Literacy significantly and positively affects innovation

The analysis result found that digital literacy significantly and positively affects innovation (H5 accepted). This indicates that higher digital literacy in Jembrana's developing tourist villages correlates with greater innovation, and vice-versa. This finding aligns with previous research, including Firmansyah & Dede (2022), who found a direct link between digital literacy and innovation. Digital literacy, encompassing critical, performative, and instrumental aspects, is crucial for driving innovation in response to technological and communication advancements, necessitating the integration of economic, environmental, and social goals. This aligns with Imjai et al. (2025), who highlight the critical need for improved digital literacy to support sustainable micro-enterprise management within economic frameworks. Furthermore, Setyadi et al. (2025) found digital literacy to be the strongest predictor of innovation performance, underscoring its vital role in enabling effective engagement with modern technology. High digital literacy allows organizations to effectively adopt and implement innovative technologies. Finally, digital literacy innovation involves developing frameworks and tools to enhance competence (Smith & Storrs, 2023) and improve the effectiveness of innovation implementation through learning (Mentzer et al., 2024).

H6: Innovation mediates the relationship between entrepreneurial orientation and sustainability performance

Hypothesis test results confirm that innovation partially mediates the relationship between entrepreneurial orientation and sustainability performance (H6 accepted). This implies that a stronger entrepreneurial orientation, coupled with high innovation, significantly enhances sustainability performance. This finding aligns with studies by Yaskun et al.

Dewi, N. M. R. C. K., Sukawati, T. G. R., Sukaatmadja, I. P. G., & Rahanatha, G. B. (2025). The role of innovation in mediating the relationship between entrepreneurial orientation and digital literacy on sustainability performance: A study of developing tourism villages in Jembrana Regency. *International Research Journal of Management, IT and Social Sciences*, 12(4), 240–256. <https://doi.org/10.21744/irjmis.v12n4.2538>

(2023) and Tresna & Raharja (2019), which demonstrate a direct positive link between entrepreneurial orientation and performance. However, it contrasts with Kristinae et al. (2023), who found no direct significant effect, suggesting other variables are needed to fully explain this relationship. Indeed, entrepreneurial orientation is a vital resource that helps organizations understand their external environment and internalize it to foster innovation (Hidayat et al., 2023). Crucially, this result supports research by Nursal et al. (2022), Fan et al. (2021), and Hidayat et al. (2023), all of whom indicate that innovation acts as a mediator. This means innovation serves as an intermediary, strengthening entrepreneurial orientation's influence on organizational performance. Without innovation, entrepreneurial orientation might not directly boost performance, but its presence as a mediator makes entrepreneurial orientation's impact on sustainability performance more significant.

H7: Innovation mediates the relationship between digital literacy and sustainability performance

The analysis confirms that innovation partially mediates the relationship between digital literacy and sustainability performance (H7 accepted). This suggests that for Jembrana's developing tourist villages, enhanced digital literacy, particularly when combined with robust innovation, leads to improved sustainability outcomes. Digital literacy involves the effective and discerning use of digital media for information and communication (Dahman et al., 2023), proving essential for filtering information and generally boosting individual performance (Dahman et al., 2023; Metris & Priambodo, 2023). However, it's important to note that some research indicates digital literacy may not be the sole significant driver of overall organizational performance (Razak et al., 2022). Critically, these findings align with studies showing that digital literacy's impact on entrepreneurial performance is often indirect, working through innovation (Firmansyah & Dede, 2022). This emphasizes innovation's pivotal role in translating digital skills into better organizational sustainability.

4 Conclusion

This study investigated the crucial roles of entrepreneurial orientation, digital literacy in driving sustainability performance, and how innovation mediated that relationship within developing tourist villages in Jembrana, Bali. Given initial community reluctance and risk aversion in tourism development, and considering the need for strategic resource utilization as highlighted by the Resource-Based View (RBV) theory, this research aimed to understand how these factors interact to foster sustainable growth.

The research reveals significant positive influences across these variables. Entrepreneurial orientation and digital literacy both directly and positively impact sustainability performance. Furthermore, both entrepreneurial orientation and digital literacy were found to significantly and positively affect innovation. Crucially, innovation was confirmed to partially mediate the relationship between both entrepreneurial orientation and digital literacy with sustainability performance. This underscores that while entrepreneurial drive and digital skills are vital, their full potential in enhancing sustainability is realized through the active development and implementation of new ideas, services, and technologies.

The theoretical implications of this research support existing research and strengthen the Resource-Based View (RBV) Theory by demonstrating that sustainable performance is influenced by resources like entrepreneurial orientation, digital literacy, and innovation. These results show that entrepreneurial orientation and digital literacy directly impact sustainable performance, with innovation mediating this relationship. This reinforces RBV's emphasis on leveraging resources for organizational sustainable performance.

Practically, this research offers insights for developing tourist village managers in Jembrana Regency and the government. To enhance sustainable performance, managers and stakeholders should prioritize fostering an entrepreneurial spirit by encouraging calculated risks for new opportunities, perhaps through training in strategic decision-making for product development or market expansion, while creating a safe space for experimentation. They should also focus on marketing innovation, employing strategies like local storytelling, collaborating with local influencers, or creating unique tour packages. Lastly, improving digital literacy through programs focused on creative content production and training on digital platforms like social media and village websites is crucial.

Despite these valuable insights, the study has limitations. Being conducted in a single region (Jembrana) using a cross-sectional design means the findings may not be generalizable to other areas and cannot fully capture the dynamic changes in these variables over time. Future research could benefit from broader geographical scopes and longitudinal approaches to further explore these complex relationships.

Conflict of interest statement

The authors declared that they have no competing interests.

Statement of authorship

The authors have a responsibility for the conception and design of the study. The authors have approved the final article.

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