

## Investor Roles, Green Innovation, and Sustainable Tourism in Mandalika Special Economic Zone

Bagas Anggara\*, Susilo Talidobel, Rizky Sumardani, Muhammad Taufik,  
Ni Putu Adya Laksmiamrita, Rianto

Bumigora University, Mataram, Indonesia

\*Corresponding author: [anggara@universitasbumigora.ac.id](mailto:anggara@universitasbumigora.ac.id)

DOI: <https://doi.org/10.24922/eot.v13i1.3060>

---

### Article Info

Submitted:  
October 25<sup>th</sup> 2025  
Revised:  
March 11<sup>th</sup> 2026  
Accepted:  
March 30<sup>th</sup> 2026

### Abstract

Sustainable tourism has become a strategic priority in Indonesia, particularly in Special Economic Zones such as the Mandalika Special Economic Zone, where economic development must be balanced with environmental and social sustainability. This study examines the influence of investor roles and green innovation on sustainable tourism development. A mixed-methods sequential explanatory design was employed. The quantitative phase involved a survey of 100 tourism investors across accommodation, restaurant, and tour and travel sectors, analyzed using SmartPLS. This was followed by a qualitative phase consisting of interviews, observations, and focus group discussions with 25 stakeholders, including government representatives, industry actors, and local communities. The results indicate that both investor roles and green innovation have significant positive effects on sustainable tourism (Investor Role:  $\beta = 0.385$ ,  $p < 0.001$ ; Green Innovation:  $\beta = 0.281$ ,  $p < 0.001$ ), with an  $R^2$  value of 0.575. These findings suggest that investor engagement and the adoption of environmentally oriented innovations contribute substantially to explaining variations in sustainable tourism performance. Qualitative findings further reveal that sustainable tourism development is supported by the alignment of investor activities, policy frameworks, and community participation, particularly in economic contribution, resource efficiency, and environmental practices. This study contributes to the empirical understanding of how investment and innovation interact in shaping sustainable tourism outcomes in emerging destinations.

**Keywords:** sustainable tourism; tourism investment; green innovation; sustainable destination development; Mandalika special economic zone



## INTRODUCTION

### Background

Sustainable tourism has become an important agenda in the economic and environmental development of many developing countries, including Indonesia and the ASEAN region (Kurniawan & Khademi-Vidra, 2024). The role of the tourism sector is not only as a driver of economic growth but also as a sector that must be able to maintain a balance between social, economic, and environmental aspects (Kurniawan & Khademi-Vidra, 2024). However, the challenges faced in implementing sustainable tourism remain complex, particularly in terms of resource management and the involvement of various stakeholders, including investors and local communities (Sadat, Lawelai, & Nastia, 2025).

Existing studies have emphasized the importance of sustainability principles in tourism; however, there is still limited empirical understanding of how investor roles and green innovation interact to influence sustainability outcomes, particularly in Special Economic Zone (SEZ)-based coastal destinations. Most prior research (Erwin, 2021), (Suleman, Supiandi, Yuli, Muttaqin, & Martayad, 2023) and (Papalou, Katafygiotou, & Dimopoulos, 2024), examines sustainability dimensions separately, without explaining the integration between investment behavior, innovation, and governance in contexts such as Mandalika. Furthermore, these studies indicate that sustainable tourism in Mandalika remains partially implemented, with fragmented practices in environmental management, green technology adoption, and alignment between investment and conservation goals. This suggests the need for a more integrated approach involving investor roles, green innovation, and adaptive governance.

It is undeniable that sustainable business has become the aspiration of every business organization today,

including businesses in the tourism sector (Mukhtar, 2019). The tourism sector has recently intensified its campaign on the concept of sustainable tourism, driven by the awareness of many countries around the world regarding the great potential of tourism as a future source of national income (UNWTO & UNDP, 2017). Therefore, many countries have begun investing heavily in sustainable tourism (Palazzo, Gigauri, Panait, Apostu, & Siano, 2022). The concept of sustainable tourism emphasizes how tourism businesses can operate while prioritizing environmental conservation by reducing the negative impacts of business activities (Dias, Viana, & Pereira, 2024). Regulations established in many countries regarding environmentally friendly businesses, including in the tourism sector. Tourism is considered sustainable when it successfully integrates three main aspects: planet, socio-cultural, and economic (Palazzo, Gigauri, Panait, Apostu, & Siano, 2022).

Tourism is considered sustainable when it successfully integrates three main aspects: planet, socio-cultural, and economic (Dwyer, 2005) and (Khan, Hossain, & Sarker, 2024). The planet aspect refers to business activities that prioritize environmental conservation without causing significant negative impacts on nature (Dwyer, 2005) and (Khan, Hossain, & Sarker, 2024). The socio-cultural aspect relates to the existence of tourism businesses that do not create conflict with local communities while respecting and preserving local culture (Dwyer, 2005) and (Khan, Hossain, & Sarker, 2024). Meanwhile, the economic aspect emphasizes the positive contribution of the tourism sector to the improvement of the local community's economy (Dwyer, 2005) and (Khan, Hossain, & Sarker, 2024).

The role of investors is vital in achieving sustainable tourism. In this study, the investor role is conceptualized not only as a financial provider, but also as a strategic actor in governance, innovation enabler, and stakeholder partnership

facilitator. Investors contribute through capital allocation, influence development direction, introduce environmentally friendly technologies, and shape collaboration with governments and local communities (United Nation & UN Tourism, 2025). This is crucial considering the limited resources of the government, both in terms of human resources and funding, making the role of private investors indispensable (UNWTO & UNDP, 2017). Beyond funding, sustainable tourism also requires human resource capacity capable of generating innovative ideas that support sustainability (Vinh, 2024).

One of the most essential human resource capacities needed is green innovation (Baluyot, 2025). Various studies have stated that green innovation has the potential to be a determinant of the success of sustainable tourism (Santos, Veiga, Santos, & Águas, 2021) and (syaifullah, Yusuf, Hidayah, & Pujiwati, 2023). This innovation includes the creation of new products and technologies aimed at reducing environmental risks such as pollution and resource exploitation, particularly energy (Bratić, Pavlović, Pivac, Surla, & Ćerović, 2025). Therefore, green innovation must become a top priority for investors when participating in the development of sustainable tourism. Investors play a major role in driving green innovation that will strengthen the achievement of sustainable tourism (Santos, Veiga, Santos, & Águas, 2021) (syaifullah, Yusuf, Hidayah, & Pujiwati, 2023) (Bratić, Pavlović, Pivac, Surla, & Ćerović, 2025).

However, the relationship between investor roles and green innovation requires stronger theoretical grounding. Investors are not only passive funders but active decision-makers who determine whether investments prioritize short-term profit or long-term sustainability. Through their strategic choices, investors can either enable or constrain the adoption of green innovation. Therefore, green innovation in tourism development is highly dependent on investor commitment, risk perception,

and sustainability orientation, making investor behavior a critical driver of innovation outcomes.

The Indonesian government's efforts to support tourism have been realized through the development of Special Economic Zones (SEZs), one of which is the Mandalika SEZ in Lombok (Adam, 2019) and (Yuli, Azizurrohman, Pramuja, & Ginting, 2025). The Mandalika SEZ has proven its ability to boost the economy, as evidenced by the 2022 MotoGP event, which generated IDR 4.5 trillion in state revenue and contributed to a 1.46% increase in NTB's GRDP (Kompas, 2022) and (Rasbin, 2022). Furthermore, the natural beauty and beaches of Mandalika have attracted domestic and international tourists, reflected in the surge of 2.4 million tourist visits in 2024 (Kementrian Pariwisata dan ekonomi Kreatif, 2025).

Despite this rapid growth, Mandalika faces a critical sustainability tension. On the one hand, investment expansion continues to accelerate tourism development and economic gains; on the other hand, environmental pressures, weak implementation of green innovation, governance gaps, and limited community inclusion pose serious challenges. Several developments—such as deforestation without reforestation and construction in ecologically sensitive areas—indicate that some investment practices are not aligned with sustainability principles (Karini, Azhar, Fathanah, & Devinta, 2025). Moreover, tourism development in Mandalika still largely relies on conventional approaches, including non-renewable energy use and inadequate waste management systems (Papallou, Katafygiotou, & Dimopoulos, 2024), (Erwin, 2021), (Hafifi & Murdana, 2024) and (Karini, Azhar, Fathanah, & Devinta, 2025).

This condition highlights a significant gap between sustainability policy and implementation. Although regulatory frameworks exist, their effectiveness in directing investor behavior and promoting green innovation remains limited.

Consequently, the challenge is not only about increasing investment but ensuring that such investments are aligned with sustainability principles through innovation and inclusive governance.

In addition to green innovation, the study also highlights the importance of dynamic and inclusive tourism governance. Although many sustainability policies have been formulated, there remains a significant gap between policy formulation and actual implementation (Erwin, 2021) and (Hafifi & Murdana, 2024). Therefore, optimizing the role of investors must be aligned with green innovation strategies and adaptive governance mechanisms while ensuring active involvement of local communities (Vinh, 2024) and (Gai, Algeri, & Manganiello, 2025).

Furthermore, previous studies (Erwin, 2021) (Mukhtar, 2019) and (Dias, Viana, & Pereira, 2024) indicate that the current discourse on sustainable tourism not only emphasizes economic aspects but also comprehensively incorporates social and environmental aspects simultaneously, along with the importance of various types of tourism that support sustainable development. This requires stakeholders to collaborate across sectors and actively implement green technology as well as community empowerment to realize tourism that not only delivers economic benefits but also ensures environmental and socio-cultural sustainability (syaifullah, Yusuf, Hidayah, & Pujiwati, 2023), (Dwyer, 2005) and (Khan, Hossain, & Sarker, 2024).

Based on the above discussion, this study aims to address the gap by examining how investor roles and green innovation interact in shaping sustainable tourism outcomes in the Mandalika SEZ. This research is expected to provide both theoretical and practical contributions by clarifying the linkage between investment behavior, innovation processes, and sustainability performance, as well as offering strategic insights for strengthening multisectoral collaboration and community empowerment.

## LITERATURE REVIEW

### Sustainable Tourism Concept

Sustainable tourism emphasizes the balance between environmental preservation, economic growth, and socio-cultural integrity (Mertha et al., 2025). According to (Dwyer, 2005) it is achieved through the integration of the triple bottom line: environmental (planet), economic (profit), and social (people) dimensions. This perspective is supported by recent studies highlighting the importance of long-term resource management and stakeholder collaboration (Khan, Hossain, & Sarker, 2024) and (Mertha et al., 2025).

However, despite its clear conceptual foundation, the implementation of sustainable tourism remains challenging, particularly in developing and emerging destinations. Prior research shows that sustainability practices tend to be uneven, often prioritizing economic benefits over environmental and social dimensions (Djabbar et al., 2025 (Dias, Viana, & Pereira, 2024) and (Sadat, Lawelai, & Nastia, 2025)). This indicates that achieving sustainability requires not only policy commitment but also active involvement of key stakeholders within the tourism ecosystem.

### Investor Role in Sustainable Tourism

Investors play a crucial role in shaping tourism development, not only as providers of capital but also as strategic actors influencing decision-making processes. According to United Nations World Tourism Organization, investors contribute through capital allocation, infrastructure development, and strategic direction that determine whether tourism growth aligns with sustainability principles.

Empirical studies show that investment decisions significantly affect sustainability outcomes, particularly in local economic development, employment generation, and business expansion (Mukhtar, 2019) and (Erwin, 2021). However, these impacts are often more pronounced in economic dimensions than in environmental

practices, indicating an imbalance in sustainability implementation.

### **Green Innovation in Tourism**

Green innovation refers to the development and implementation of environmentally friendly technologies, processes, and practices aimed at reducing environmental impact and improving resource efficiency. In the tourism sector, this includes renewable energy adoption, waste management systems, and eco-friendly infrastructure (Bratić et al., 2025).

Previous studies identify green innovation as a key driver of sustainable tourism, enabling businesses to reduce environmental degradation while maintaining operational efficiency (Santos, Veiga, Santos, & Águas, 2021) and (syaifullah, Yusuf, Hidayah, & Pujiwati, 2023). It also enhances competitiveness by aligning tourism products with global sustainability standards.

### **Linking Investor Role and Green Innovation**

The relationship between investor roles and green innovation remains under-explored. Although green innovation is widely recognized as essential for sustainability, its implementation largely depends on investment decisions, resource allocation, and risk considerations.

Investors influence the adoption of green innovation by determining its financial feasibility and strategic priority. Thus, green innovation should not be viewed as an independent driver, but as a mechanism shaped by investor commitment, sustainability orientation, and governance context.

### **SEZ Context and Mandalika Case**

Special Economic Zones (SEZs) provide a unique context for tourism development, characterized by high investment

intensity, regulatory incentives, and rapid infrastructure expansion. In Indonesia, SEZs such as Mandalika have been developed to stimulate tourism-driven economic growth (Adam, 2019) and (Yuli, Azizurrohman, Pramuja, & Ginting, 2025).

Despite this rapid development, Mandalika faces sustainability challenges, including environmental degradation, limited adoption of green innovation, and gaps between policy and implementation (Hafifi & Murdana, 2024).

### **Research Gap and Hypothesis Development**

Based on the review above, previous studies have largely examined sustainable tourism, investor roles, and green innovation separately. Limited research has explored how these elements interact within a unified framework, particularly in SEZ-based coastal tourism destinations.

Therefore, this study aims to address this gap by examining the influence of investor roles and green innovation on sustainable tourism in the Mandalika SEZ.

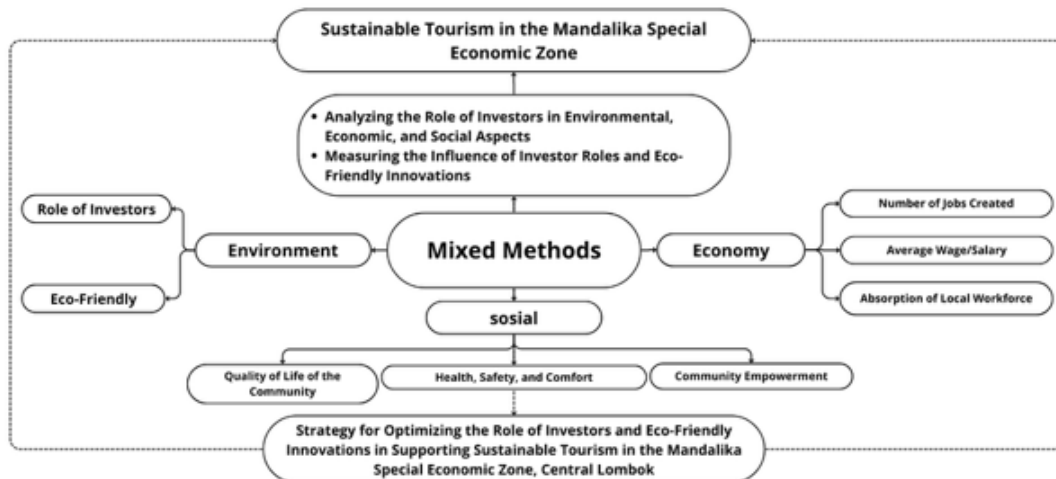
Accordingly, the hypotheses are formulated as follows:

H1: Investor role has a positive effect on sustainable tourism

H2: Green innovation has a positive effect on sustainable tourism

### **METHOD**

The research method employed in this study is a Mixed Methods approach using a sequential explanatory design (Truong & Liu, 2019) and (Creswell JW & Poth CN, 2018). This design was operationalized in two explicitly connected phases: a quantitative phase followed by a qualitative phase aimed at explaining and elaborating the initial statistical findings, as illustrated in Figure 1.



**Figure 1.** Sequential Explanatory Mixed Methods Design Used in This Study  
(Source: Research results and research mapping, 2025)

### Research Design and Integration Logic

In the first phase, a quantitative approach was conducted to examine the influence of investor roles (X1) and green innovation (X2) on sustainable tourism (Y) (Truong & Liu, 2019). This phase aimed to identify the significance, strength, and direction of relationships between variables using structural model analysis.

The second phase was designed as an explanatory follow-up to the quantitative results. Specifically, qualitative inquiry focused on: (1) explaining why certain relationships were significant or weak, (2) exploring how investors influence the adoption of green innovation in practice, and (3) identifying contextual factors such as governance gaps and implementation barriers that could not be captured quantitatively.

Thus, the qualitative phase was explicitly derived from the quantitative findings and functioned to explain, refine, and contextualize the statistical results, ensuring methodological integration consistent with a sequential explanatory design (Creswell JW & Poth CN, 2018).

### Variables and Measurement

The research variables consist of investor role (X1), green innovation (X2), and sustainable tourism (Y).

Investor role (X1) was measured through multiple dimensions, including financial contribution, strategic involvement, innovation support, and stakeholder collaboration. Green innovation (X2) included indicators related to environmentally friendly technologies, resource efficiency, and sustainable operational practices. Sustainable tourism (Y) was measured based on environmental, socio-cultural, and economic dimensions.

Each construct was measured using Likert-scale items (1–5), adapted from previous studies (Santos et al., 2021; Syaifulah et al., 2023; Khan et al., 2024). Before the main survey, the instrument underwent expert validation and a limited pilot test to ensure clarity, relevance, and reliability of the measurement items.

### Types of Data and Data Collection Techniques

Data were collected through primary, secondary, and observational sources. Primary data were obtained via Likert-scale (1–5) questionnaires distributed to investors in the accommodation, restaurant, and tour & travel sectors, complemented by in-depth interviews with key stakeholders (Creswell JW & Poth CN, 2018). Secondary data included official reports, regulations, and academic

publications related to tourism investment and green innovation (Truong & Liu, 2019) while field observations were conducted to assess the implementation of environmentally friendly practices (Creswell JW & Poth CN, 2018).

The quantitative sample was selected using purposive sampling, comprising 100 respondents (Jr, Hult, Ringle, & Sarstedt, 2017). The qualitative phase involved 15 informants, including investors, government officials, destination managers, local communities, and tourism experts, consistent with (Creswell JW & Poth CN, 2018) recommended range of 5–25 informants.

### Population and Sample

The quantitative sample was determined using purposive sampling, with a total of 100 respondents (Jr, Hult, Ringle, & Sarstedt, 2017).. Inclusion criteria for “investors” were defined explicitly as individuals or representatives who: have decision-making authority in investment or business operations, are directly involved in tourism-related businesses (accommodation, restaurants, tour & travel), and participate in planning, managing, or financing tourism development.

### Data Analysis Technique

This study employed both quantitative and qualitative analysis, which were subsequently integrated for a comprehensive understanding. Quantitative analysis was conducted using SmartPLS, including the measurement (outer model) and structural (inner model) evaluation. Qualitative analysis followed the interactive model (Creswell JW & Poth CN, 2018). consisting of data reduction, data display, and conclusion drawing.

The findings from both approaches were integrated to generate context-specific strategies for optimizing investor roles and promoting green innovation in the Mandalika Special Economic Zone (SEZ), supporting sustainable tourism development (Truong & Liu, 2019).

## RESULTS AND DISCUSSION

Kuta Mandalika Beach is one of the leading destinations in the Mandalika Special Economic Zone (SEZ), Lombok, West Nusa Tenggara. Kuta Mandalika Beach offers natural beauty that combines white sand, calm waves, and stunning sunset views. It also serves as the center of tourism sector development with various supporting facilities such as hotels, restaurants, and tour & travel services (Suleman, Supiandi, Yuli, Muttaqin, & Martayad, 2023).



**Figure 2.** Kuta Mandalika  
(Source: ITDC, 2020)

### Respondent and Informant

This study involved 100 respondents consisting of investors or business actors operating in the tourism sector at Kuta Mandalika Beach. The respondents were drawn from three main categories of tourism-related businesses: accommodation, food and beverage services, and tour & travel services. This classification reflects their roles in investment decisions and operational activities within the tourism industry, as presented in Table 1.

**Table 1.** Table 1. Characteristics of Respondents Based on Business Type

No	Business	Respondents	Percentage (%)
1	Accommodation	40	40
2	Restaurant	40	40
3	Tour & Travel	20	20
Total		100	100

Source: Data Analysis Results, 2025.

Based on Table 1, the distribution of respondents is categorized according to the type of business operated in the Kuta Mandalika Beach area. The majority of respondents are from the accommodation and restaurant sectors, each representing 40% of the total sample, while the remaining 20% are from the tour & travel sector. In addition to the survey, qualitative data were collected through in-depth interviews with selected informants who hold relevant roles in the tourism sector. These informants were chosen to provide complementary insights into investment practices, green innovation, and sustainable tourism development, as presented in Table 2.

**Table 2.** Characteristics of Informants based on Industry and Relevance

Industry	Informant	Relevance to the Research
Hotel	6	Provides perspectives on investment and green innovation
Restaurant	6	Provides perspectives on investment and green innovation
Tour & Travel	5	Provides insights into sustainable tourism strategies

Government	2	Responsible for tourism policies and regulations
Local Community	6	Shares experiences and perceptions of tourism impacts

Source: Data Analysis Results, 2025.

Informants from hotels and restaurants offered direct perspectives regarding the implementation of green innovation practices, while tour and travel operators provided valuable insights into strategies for sustainable tourism services. The tourism office contributed views on policies and regulations, and the participation of local communities highlighted social, cultural, and economic impacts of tourism activities.

### Distribution of Average Scores of Investor Roles and Innovations in Supporting Sustainable Tourism

Based on the results of data analysis regarding the distribution of average scores of investor roles and innovations in supporting sustainable tourism, the detailed results are presented in Table 3.

**Table 3.** Distribution of Average Scores of Investor Roles and Innovations in Supporting Sustainable Tourism

Aspect	Indicator	Average	Note
Environment	Investment in green technology	3.0	Neutral
	Development of eco-friendly facilities	3.4	Agree
	Environmental conservation programs	3.4	Agree
Economy	Encouraging local business growth	3.8	Agree
	Increasing local employment opportunities	4.3	Strongly Agree
	Contribution to regional revenue	3.5	Agree
Social	Respecting community rights and permits	3.4	Agree
	Capacity development	3.6	Agree
Eco-Friendly	Cultural empowerment	3.5	Agree
	Renewable energy	3.2	Neutral

Aspect	Indicator	Average	Note
Innovation	Water efficiency	3.5	Agree
	Energy efficiency	3.5	Agree
	Waste management	3.0	Neutral
	Eco-tourism facilities	3.0	Neutral
	Recycling and product reuse	3.4	Neutral
	Digitalization	3.7	Agree

Source: Data analysis results, 2025.

Based on the analysis presented in Table 3, investors have played an active role in supporting sustainable tourism, with average scores ranging from Neutral to Strongly Agree. The economic aspect received the highest score (4.3 – Strongly Agree). The environmental aspect was rated between Neutral and Agree, indicating that efforts in green technology investment and eco-friendly facilities still need improvement. Meanwhile, the social aspect received an Agree score, highlighting

investors' attention to community involvement and the development of local human resource capacity.

#### Validity and Reliability Assessment

The responses in this study reflect the perceptions of tourism investors operating in the accommodation, restaurant, and tour & travel sectors. Prior to further analysis, the measurement items were evaluated to ensure their validity and reliability.

**Tabel 4.** Item Validity (Item-Total Correlation Results)

n	Environmental Innovation (X2)	Sustainable Tourism (Y)	Investor Role (X1)
x11			0,517361111
x12			0,570833333
x13			0,528472222
x14			0,4875
x15			0,502083333
x16			0,568055556
x17			0,554861111
x18			0,511805556
x19			0,60625
x21	0,542361111		
x22	0,525		
x23	0,552777778		
x24	0,618055556		
x25	0,534027778		
x26	0,616666667		
x27	0,530555556		
y1		0,517361111	
y2		0,515277778	
y3		0,554166667	
y4		0,490277778	
y5		0,613194444	

n	Environmental Innovation (X2)	Sustainable Tourism (Y)	Investor Role (X1)
y6		0,5375	
y7		0,577777778	
y8		0,492361111	

Source: Data analysis results, 2025.

Based on the measurement model assessment presented in Table 4, the indicators of Green Innovation (X2), Investor Role (X1), and Sustainable Tourism (Y) generally demonstrate acceptable item-level validity, as reflected by item-total correlations exceeding 0.4. In addition, the constructs show adequate internal consistency, with Cronbach's Alpha and Composite Reliability values meeting the minimum recommended thresholds.

However, these results should be interpreted with caution. Several constructs exhibit Average Variance Extracted (AVE) values below the recommended threshold of 0.50, indicating potential limitations in

convergent validity. This suggests that the indicators may not fully capture the underlying constructs. Furthermore, discriminant validity was also assessed using cross-loadings, the Fornell–Larcker criterion, and the Heterotrait–Monotrait Ratio (HTMT), with results generally supporting acceptable construct differentiation, although some values approach threshold limits. Therefore, while the measurement model is considered adequate for exploratory analysis, these limitations should be acknowledged when interpreting the findings, and further refinement of measurement indicators is recommended in future research.

**Table 5.** Reliability Test Results

	Cronbach's alpha	Composite reliability	Composite reliability	(AVE)
(X2)	0,631944444	0,634722222	0,645138889	0,453472222
(Y)	0,627777778	0,629861111	0,640972222	0,418055556
(X1)	0,636805556	0,640972222	0,647222222	0,419444444

Source: Data analysis results, 2025.

Based on the reliability test results presented in Table 4, the constructs of Green Innovation (X2), Sustainable Tourism (Y), and Investor Role (X1) generally demonstrate acceptable levels of internal consistency, as indicated by Cronbach's Alpha values exceeding the minimum threshold of 0.5. However, the reliability coefficients are relatively moderate, suggesting that the consistency of some constructs is not yet optimal.

In addition, the Average Variance Extracted (AVE) values are found to be close to, but in some cases still below, the recommended threshold of 0.50, indicating potential limitations in convergent validity. Therefore, while the constructs are

considered adequate for exploratory analysis using SmartPLS, these results should be interpreted with caution. Further refinement of measurement indicators is recommended to improve construct reliability and validity in future studies (Jr, Hult, Ringle, & Sarstedt, 2017).

### Research Hypothesis

Based on the validity and reliability tests conducted, all indicators of the research variables were found to be valid and reliable. Thus, the instruments used have met the requirements to proceed to the next stage of analysis, namely hypothesis testing. The results of the hypothesis testing are presented in Table 6.

**Table 6.** Results of Hypothesis Testing Analysis

	(O)	(M)	(STDEV)	T	P values
(X2) > (Y)	0,280	0,272	0,069	4.04	0.000
(X1) > (Y)	0,385	0,393	0.097	5.74	0.000

Source: Data analysis results, 2025.

Based on the results presented in Table 5, both Environmental Innovation (X2) and Investor Role (X1) have a positive and statistically significant effect on Sustainable Tourism (Y), with coefficients of 0.280 ( $t = 4.04$ ;  $p = 0.000$ ) and 0.385 ( $t = 5.74$ ;  $p = 0.000$ ), respectively. The higher coefficient of the investor role indicates that it has a more dominant influence in shaping sustainable tourism outcomes in the Mandalika Special Economic Zone (SEZ). This suggests that investors play a key role not only as financial contributors but also as strategic actors who determine development priorities and the adoption of environmentally friendly practices.

This interpretation is supported by qualitative findings, which reveal that many tourism businesses in Mandalika still rely on conventional practices, particularly in energy use and waste management. The adoption of green innovation is often influenced by cost considerations and expected returns, indicating that its implementation largely depends on investor commitment. Therefore, while environmental innovation contributes to sustainability, its effectiveness is closely tied to investor decisions, highlighting the need for stronger incentives and governance mechanisms to better align investment practices with long-term sustainability goals.

#### **Analysis of the Coefficient of Determination ( $R^2$ )**

The next stage of analysis is the testing of the coefficient of determination ( $R^2$ ), which aims to determine the extent to which the independent variables contribute to explaining the dependent variable. The results of the  $R^2$  analysis in this study are presented in Table 7.

**Table 7.** Results of the Coefficient of Determination ( $R^2$ ) Analysis

R Square	R-square	R-square adjusted
Sustainable Tourism	0,575	0,572916667

Source: Data analysis results, 2025.

Based on the results presented in Table 6, the R-Square value for the Sustainable Tourism variable (Y) is 0.575, with an Adjusted R-Square of 0.573. This suggests that approximately 57.5% of the variance in Sustainable Tourism can be explained by Environmentally Friendly Innovation (X2) and Investor Role (X1), while the remaining 42.5% is influenced by other factors not included in this model. Although this explanatory power can be considered moderate, the results should be interpreted cautiously, given the limited number of predictor variables and the exploratory nature of the model. This indicates that additional variables may be needed in future research to provide a more comprehensive explanation of sustainable tourism development.

#### **Comparison of Conventional Practices and Green Innovation**

The following table presents a comparative synthesis derived from field findings and qualitative analysis, illustrating the differences between conventional practices and green innovations adopted by tourism business actors in the Mandalika SEZ. The classification is based on data obtained from interviews, observations, and Focus Group Discussions (FGDs), which were then interpreted and categorized by the authors.

**Table 8.** Comparison of Conventional Practices vs Green Innovation in the Tourism Industry

Aspect	Conventional Practices	Green Innovation
Energy	Using fossil fuel-based electricity	Utilization of renewable energy (solar panels, biogas, smart energy management)
Water	Excessive water use without recycling	Water efficiency systems (rainwater harvesting, greywater recycling, automatic sensors)
Building Materials	Non-renewable materials (cement, plastic, steel)	Use of eco-friendly materials (bamboo, recycled wood, environmentally friendly bricks)
Waste	Waste disposal without sorting	3R (Reduce, Reuse, Recycle), waste banks, organic waste composting
Food & Beverage	Imported products / single-use plastics	Sourcing local & organic ingredients, refill stations, plastic reduction
Transportation	Fossil fuel-powered vehicles	Electric vehicles, tourist bicycles, shared shuttles (eco-friendly transport)
Hotel Operations	AC/electricity always on, water-intensive laundry	Smart room systems (light & temperature sensors), green laundry, LED lighting & smart cooling
CSR & Social	One-time donation-based CSR	Local community empowerment, MSME collaboration, sustainable skill training
Marketing	Printed brochures, paper-based ads	Eco-friendly digital marketing (website, social media, e-brochures, VR tourism)
Tourists	Passive consumers	Tourists actively participate in eco-activities (eco-volunteering, mangrove planting, etc.)

Source: Data analysis results, 2025.

## Discussion

### The Role of Investors in Sustainable Tourism

Investors play a crucial role in developing sustainable tourism in the Mandalika SEZ. From an environmental perspective, they implement eco-friendly facilities, utilize automatic faucet systems, and carry out conservation efforts through tree planting. Economically, investors provide employment, support local MSMEs, and contribute to regional revenue. Socially, they involve local communities as workforce and business partners, offering salaries ranging from staff to management levels. These findings confirm that investors are not merely capital providers but also agents of sustainable development integrating economic, social, and environmental aspects.

### Investor Role and Green Innovation in Supporting Sustainable Tourism

The findings indicate that both investor role and green innovation significantly contribute to sustainable tourism development in the Mandalika area. However, when these structural results are considered alongside the descriptive statistics, a more nuanced interpretation emerges. While the path coefficients show significant positive effects, the average scores of the indicators—ranging from 3.0 (Neutral) to 4.3 (Strongly Agree)—suggest that the practical implementation of sustainability-related practices is still uneven across sectors.

This combination implies that, although investors and green innovation are statistically important drivers within the model, their actual application in the field has not yet reached an optimal level. In line with the model's logic, investor role

appears to function as an enabling factor that shapes the extent to which green innovation is adopted. This finding is consistent with previous studies that highlight the central role of investment decisions in determining sustainability orientation in tourism development. Therefore, the results suggest that strengthening investor commitment may be a key mechanism to enhance the effectiveness of green innovation and, in turn, improve sustainable tourism outcomes.

The findings indicate that, based on respondent perceptions, investors are considered to have a strong role in supporting local employment opportunities (average = 4.3, Strongly Agree) and local business development (average = 3.8, Agree). These results suggest that the economic contributions of investors are positively perceived by business actors; however, they do not necessarily represent objective measurements of actual employment impact or economic outcomes.

In addition, respondents perceive that investors show moderate engagement in environmental conservation initiatives and the development of eco-friendly facilities (average = 3.4, Agree), as well as in social aspects such as community involvement and capacity building (average = 3.4–3.6, Agree). These findings indicate areas of relative strength from a perceptual standpoint, while also highlighting the need for further empirical validation using objective indicators to better assess the real impact of investor activities on sustainable tourism.

However, investment in green technology scored lower (average = 3.0, Neutral), indicating a need for further development. To enhance environmental sustainability, investors are encouraged to allocate more resources to renewable energy systems (e.g., solar panels, biogas), water efficiency technologies, and energy-efficient building designs.

Eco-friendly innovations were assessed across energy, water, electricity, waste management, infrastructure,

recycling, and digitalization. Digitalization received the highest score (average = 3.7, Agree), reflecting effective adoption of technology for operational efficiency and eco-friendly marketing. Water and energy efficiency innovations scored moderately (average = 3.5, Agree), suggesting that practices such as automatic water sensors, energy-efficient lighting, and smart room systems are being implemented and should be further strengthened.

Conversely, renewable energy, waste management, infrastructure, and recycling scored lower (average = 3.0–3.4, Neutral), highlighting opportunities for improvement. Future development could focus on:

- a. Expanding renewable energy use (solar panels, biogas)
- b. Implementing comprehensive waste sorting and recycling programs
- c. Constructing eco-tourism facilities using sustainable building materials
- d. Reducing single-use plastics and promoting reusable or biodegradable alternatives

In summary, the study indicates that while economic and social contributions of investors are robust, environmental investments and eco-innovation require further enhancement. A strategic approach integrating investor engagement with green innovation can strengthen sustainable tourism by balancing economic growth, community empowerment, and environmental conservation.

### **Relevance to Theory and Previous Research**

The findings of this study are broadly consistent with sustainable development frameworks that emphasize the integration of environmental, economic, and social dimensions (Dwyer, 2005) and (Khan, Hossain, & Sarker, 2024) However, rather than merely confirming prior studies, the results provide a more nuanced understanding of how these dimensions interact in the context of a Special Economic

Zone (SEZ). Specifically, while previous research (RUMANTI & ACHMAD, 2023) (Aransyah, Hermanto, Muftiadi, & Oktadiana, 2025) highlights green innovation as a key driver of sustainable tourism, this study suggests that its effectiveness is closely dependent on investor commitment and decision-making. This indicates that green innovation may not function as an entirely independent determinant, but rather as a mechanism shaped by investment priorities.

Furthermore, although earlier studies (Mukhtar, 2019), (Erwin, 2021) and (Dias, Viana, & Pereira, 2024) emphasize the positive role of investment in promoting local economic growth and community welfare, the findings of this research refine this perspective by showing that such contributions are more strongly reflected in perceived economic outcomes than in environmental practices. This highlights a potential imbalance in sustainability implementation, where economic benefits are more readily realized than environmental ones. Therefore, this study extends the existing literature by illustrating the conditional and context-specific nature of the relationship between investment, green innovation, and sustainable tourism, particularly within the governance and development dynamics of the Mandalika SEZ.

This study contributes to the sustainable tourism literature by providing empirical evidence from a Special Economic Zone (SEZ) context, specifically Kuta Mandalika Beach, which remains relatively underexplored in prior research. It highlights the interaction between investor roles and green innovation in shaping sustainable tourism outcomes, offering a more integrated perspective that connects investment behavior with sustainability practices. In addition, the use of a mixed-methods sequential explanatory design adds value by linking statistical findings with contextual insights from the field.

From a practical perspective, the study offers several implications for key stakeholders. Investors are encouraged to

strengthen their commitment to green innovation and engage local communities from the early stages of development. The government plays a critical role in reinforcing regulatory frameworks, providing eco-friendly infrastructure, and offering incentives to support sustainable investment. Meanwhile, local communities can enhance their capacity by developing tourism-based enterprises rooted in local potential. These efforts collectively support a more adaptive approach to optimizing investor roles and green innovation in advancing sustainable tourism in the Mandalika SEZ.

## CONCLUSION

This study shows that, within the specific context of the Mandalika Special Economic Zone (SEZ), investor roles and green innovation are important factors in supporting sustainable tourism development. The findings indicate that investor contributions are relatively strong in economic and social aspects, particularly in creating employment opportunities (average = 4.3) and supporting local business growth (average = 3.8). However, environmental aspects—such as investment in green technology (average = 3.0) and the development of eco-friendly facilities (average = 3.4)—remain less optimal and require further attention.

In addition, several forms of green innovation, including efficiency in water and energy use (average = 3.5) and digitalization (average = 3.7), show moderate progress, while areas such as renewable energy adoption, waste management, and recycling (average = 3.0–3.4) still need improvement. These findings suggest that, in the Mandalika case, the effectiveness of sustainable tourism initiatives is closely linked to how investors prioritize and implement environmentally oriented practices. However, given the non-probabilistic sampling approach and the limited scope of variables, these results should be interpreted cautiously and are not intended to be

generalized beyond similar SEZ-based tourism contexts.

The findings highlight that a strategic integration of investor engagement and green innovation can optimize sustainable tourism by balancing economic growth, community empowerment, and environmental preservation. This study contributes both theoretically and practically by emphasizing the dual role of investors as economic drivers and agents of environmental sustainability. It provides actionable recommendations for stakeholders: investors should actively implement green innovations and engage local communities; the government should enhance regulations, infrastructure, and incentives for sustainable practices; and local communities should leverage local potential for business and skill development to support sustainable tourism outcomes

#### ACKNOWLEDGEMENT

This study was funded by the Directorate of Research and Community Service, Directorate General of Research and Development, Ministry of Higher Education, Science, and Technology (Kemdik-tisaintek) under the Community-Based Empowerment Scheme in 2025. The author also acknowledges the institutional support provided by Universitas Bumigora Mataram and expresses gratitude to all respondents who participated in this study.

#### AI USE STATEMENT

Artificial intelligence (AI) tools, including ChatGPT (OpenAI), were used in a limited capacity to support language editing and improve the clarity of expression in this manuscript. The use of AI was restricted to minor paraphrasing and grammatical refinement. All research design, data collection, analysis, and interpretation were conducted independently by the authors. The authors take full responsibility for the content, accuracy, and originality of this work.

#### REFERENCES

- Adam, L. (2019). Promoting Indonesian special economic zones for tourism: Lessons from Mandalika and Tanjung Kelayang. *Economics and Finance in Indonesia*, 65(1), 33. <https://doi.org/10.47291/efi.v65i1.609>
- Aransyah, M., Hermanto, B., Muftiadi, A., & Oktadiana, H. (2025). Exploring sustainability-oriented innovations in tourism. *Cogent Social Sciences*, 11(1). <https://doi.org/10.1080/23311886.2024.2447396>
- Baluyot, M. (2025). Green human resource management, green innovation, and sustainable performance in the hospitality industry: A technological era perspective. *Journal of Information Systems Engineering and Management*, 10(40s), 368–376. <https://doi.org/10.52783/jisem.v10i40s.7295>
- Bratić, M., Pavlović, D., Pivac, T., Šurla, T., & Čerović, S. (2025). New era of tourism: Innovative transformation through Industry 4.0 and sustainability. *Sustainability*, 17, 3841. <https://doi.org/10.3390/su17093841>
- Creswell, J. W., & Poth, C. N. (2018). *Qualitative inquiry and research design: Choosing among five approaches* (4th ed.). Sage Publications.
- Djabbar, A., Machmud, M., & Rahayu, M. (2025). Tourist' Behavior and Its Impacts to The Sustainability of Tours and Travel Operation: Evidence from Indonesia. *E-Journal of Tourism*, 12(2), 353–369. <https://doi.org/10.24922/eot.v12i2.2190>
- Dias, Á., Viana, J., & Pereira, L. (2024). Barriers and policies affecting the implementation of sustainable tourism: The Portuguese

- experience. *Journal of Policy Research in Tourism, Leisure and Events*, 1–19. <https://doi.org/10.1080/19407963.2024.2314514>
- Dwyer, L. (2005). Relevance of triple bottom line reporting to achievement of sustainable tourism: A scoping study. *Tourism Review International*, 9(1). <https://doi.org/10.3727/154427205774791726>
- Erwin, Y. (2021). Implementasi penegakan hukum lingkungan pada pengembangan sektor pariwisata di kawasan ekonomi khusus (KEK) Mandalika. *Jurnal IUS Kajian Hukum dan Keadilan*, 9(2), 517–532. <https://doi.org/10.29303/ius.v9i2.929>
- Gai, L., Algeri, C., & Manganiello, M. (2025). Sustainability-oriented equity crowdfunding: The role of proponents, investors, and sustainable development. *Sustainability*, 17(5). <https://doi.org/10.3390/su17052188>
- Hafifi, M., & Murdana, I. (2024). Waste management in sustainable tourism development in super priority destinations—KEK Mandalika. *Tourism Hospitality and Culture Insights Journal*, 4(1), 27–39. <https://doi.org/10.36983/thcij.v4i1.545>
- Hair, J. F., Hult, G. T. M., Ringle, C. M., & Sarstedt, M. (2017). *A primer on partial least squares structural equation modeling (PLS-SEM)*. Sage.
- Kementerian Pariwisata dan Ekonomi Kreatif. (2025). *Jumlah perjalanan wisatawan nusantara di kawasan DPSP Mandalika tahun 2024*.
- Khan, M., Hossain, A., & Sarker, M. A. (2024). Predictors of sustainable tourism development during the post-pandemic period in Bangladesh. *Sustainability*, 16(19). <https://doi.org/10.3390/su16198333>
- Karini, R., Azhar, R., Fathanah, N., & Devinta, M. (2025). Dampak kebijakan InJourney Tourism Development Corporation terhadap keterlibatan masyarakat lokal dalam pariwisata berkelanjutan di Mandalika Lombok. *Jurnal Mekar*, 4(1), 7–13. <https://doi.org/10.59193/jmr.v4i1.386>
- Kompas. (2022, May 30). MotoGP Mandalika contributes Rp4.5 trillion, exceeding target.
- Kurniawan, T., & Khademi-Vidra, A. (2024). Understanding sustainable tourism trajectories in developing countries: Case study ASEAN. *Journal of Sustainability Research*, 6(3), 2–27. <https://doi.org/10.20900/jsr20240060>
- Mertha, I. W., Yunita, P. I., & Tirtawati, N. M. (2025). Creating Quality Tourism Destinations: The Crucial Role of Community Participation and Government Support in Batur UNESCO Global Geopark - Bali. *E-Journal of Tourism*, 12(2), 178–197. <https://doi.org/10.24922/eot.v12i2.2173>
- Mukhtar, R. (2019). Toward socially sustainable tourism: The impact of tourism on SMEs and livelihood development at tourism destinations in Bahawalpur, Pakistan. *Sustainable Business and Society in Emerging Economies*, 1(1), 43–54. <https://doi.org/10.26710/sbsee.v1i1.1005>
- Palazzo, M., Gigauri, I., Panait, M., Apostu, S., & Siano, A. (2022). Sustainable tourism issues in European countries during the global pandemic crisis. *Sustainability*, 14(7),

- Article  
3844. <https://doi.org/10.3390/su14073844>
- Papallou, E., Katafygiotou, M., & Dimopoulos, T. (2024). Emerging sustainability trends in tourist facilities: A comparative assessment of multiple hotels and resorts. *Sustainability*, 16(9). <https://doi.org/10.3390/su16093536>
- Rasbin. (2022). *Info singkat kajian DPR RI*.
- Robertson, P. (2011). An assessment of collaborative governance in a network for sustainable tourism: The case of Redeturis. *International Journal of Public Administration*, 34(5), 279–290. <https://doi.org/10.1080/01900692.2010.550078>
- Rumanti, A., & Achmad, F. (2023). Sustainable tourism industry development: A collaborative model. *IEEE Access*, 11, 83341–83363.
- Sadat, A., Lawelai, H., & Nastia. (2025). Optimizing sustainable tourism governance and its impact on employment opportunities through a dynamic governance approach. *Journal of Information Systems Engineering and Management*, 10(27), 965–979. <https://doi.org/10.52783/jisem.v10i27s.4756>
- Sangnak, D. (2025). Sustainable tourism development in Thailand: The role of agricultural tourism and government support for SMEs. *Sustainable Futures*, 9, 100782. <https://doi.org/10.1016/j.sft.2025.100782>
- Santos, M., Veiga, C., Santos, J., & Águas, P. (2021). Sustainability as a success factor for tourism destinations: A systematic literature review. *Worldwide Hospitality and Tourism Themes*, 10(2), 37–47. <https://doi.org/10.1108/whatt-10-2021-0139>
- Suleman, D., Supiandi, S., Yuli, S., Muttaqin, Z., & Martayad, U. (2023). Balancing cultural shock and economic development: Impacts on local culture in the Mandalika Special Economic Zone. *Journal of Enterprise and Development*, 5(2), 522–534. <https://doi.org/10.20414/jed.v5ispecial-issue-2.8158>
- Syaifullah, Yusuf, R., Hidayah, Z., & Pujiwati, A. (2023). Determinant factors of sustainable tourism studies in the tourism sector in South Kalimantan with innovation as a mediating variable. *Proceedings of the International Seminar on Business, Economics, Social Science and Technology (ISBEST)*, 3(1), 264–274. <https://doi.org/10.33830/isbest.v3i1.1256>
- Truong, V., & Liu, X. (2019). Mixed methods research in tourism and hospitality journals. *International Journal of Contemporary Hospitality Management*, 32(4), 1563–1579.
- United Nations, & World Tourism Organization. (2025). *Guiding principles for sustainable investment in tourism*.
- Vinh, P. (2024). Human resources for sustainable tourism development towards Society 5.0 era: A case study of Quang Ngai Province, Vietnam. *International Journal of Social Science Management and Economics Research*, 2(5), 54–70. <https://doi.org/10.61421/ijssmer.2024.2505>
- World Tourism Organization, & United Nations Development Programme. (2017). *Tourism and the Sustainable Development Goals: Journey to 2030*.

Yuli, S., Azizurrohman, M., Pramuja, R., & Ginting, Y. (2025). Tourism-driven development: Evaluating the benefits of the Mandalika Special Economic Zone. *Cogent Social Sciences*, *11*, 1–17. <https://doi.org/10.1080/23311886.2025.2460317>