

Sustainable tourism marketing strategy using the EFINEEL model in coastal communities

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Abstract

Purpose – Sustainable tourism holds significant potential for enhancing the economic welfare of coastal communities; however, marketing strategies in Minapolitan areas, such as Gosari village Gresik, remain suboptimal, particularly in integrating social and environmental aspects. This study examines the effectiveness of the EFINEEL bottom line model, encompassing seven key dimensions: economy, fishermen, social inclusion, nature, community empowerment, ecology, and local involvement. **Method** – This study uses a quantitative approach with partial least squares-structural equation modeling (PLS-SEM) and 106 purposively selected respondents. **Findings** – The findings show that local involvement strongly influences social inclusion, while community empowerment drives economic welfare, with ecological sustainability also positively impacting the outcomes. The EFINEEL model proves effective in formulating practical, sustainable tourism strategies that integrate economic, social, and environmental dimensions. **Implications** – Theoretically, this study advances sustainable tourism theory by combining the triple bottom-line framework with grassroots-based governance. It demonstrates that community-driven approaches, placing local agencies at the center, lead to more effective sustainable theoretical outcomes, emphasizing the importance of participatory models for destination development in underrepresented rural and coastal areas. This research challenges traditional top-down models and advocates for inclusive, locally rooted governance to achieve long-term sustainability.

Keywords: sustainable tourism, marketing, economic prosperity, ecology, local involvement.

Introduction

Sustainable tourism has become a major concern in regional economic development, especially in coastal areas with a wealth of natural and social resources. As an archipelagic country, Indonesia has implemented the Minapolitan concept to integrate the fisheries sector with tourism to improve local economic welfare (Putro, Wulandari, and Muhammad 2019). The government has designated 179 regions in Indonesia as Minapolitan zones as part of its maritime and fisheries economic development strategy. The Minapolitan concept promotes the economic development of integrated, efficient, quality, and sustainable marine and fisheries. Gresik regency is one of the areas designated as a Minapolitan area, including Ujungpangkah district as a hinterland area which plays an important role in producing shrimp and milkfish as the main products. This determination is based on a series of regulations and strategic planning, including Decree of the Minister of Maritime Affairs and Fisheries 35/KEPMEN-KP/2013, Gresik Regent Decree 523/283/HK.437.12/2011, as well as long-term planning documents such as the 2010-2030 Gresik regency regional spatial planning plan, the



2009-2029 Gresik regency coastal area and small islands zoning plan, and the 2011 Gresik regency Minapolitan area masterplan.

However, the marketing strategy implemented in the Minapolitan area is still more oriented towards the fisheries sector and has not optimized tourism potential holistically (Nazarchuk et al. 2022). As a result, tourism's contribution to local economic growth is still insignificant, and its benefits are not evenly distributed among local communities. Gosari village, which is in the Ujungpangkah district of Gresik regency, has an interesting natural potential to be developed as a tourist destination. The development of the Gosari village natural tourism area will positively impact the local economy and preserve the surrounding environment. To achieve this goal, an effective and sustainable marketing strategy is needed. From an Islamic economic perspective, tourism development is oriented towards economic profits and must also pay attention to aspects of social justice and overall community welfare. The principle of *maqashid syariah* in Islamic economics emphasizes a balance between economic benefits, social justice and environmental preservation as a form of responsibility towards nature and fellow humans (Jatmiko, Iqbal, and Ebrahim 2024). Therefore, a marketing model that focuses on increasing the attractiveness of tourist destinations and ensures a balance between economic benefits, social welfare, and environmental sustainability is needed.

The main challenges in developing sustainable coastal tourism include environmental impacts, economic and social balance, and community involvement. Rapid and uncontrolled tourism development can cause environmental degradation, such as pollution and disturbance of natural habitats (Hu et al. 2024). Therefore, a balance is needed between economic benefits and environmental protection so as not to cause detrimental long-term impacts. In addition, although tourism can improve the local economy, its benefits are often short-term without careful planning so that it can threaten long-term sustainability (Sethia and Puthuvayi 2021). The lack of active community participation in tourism planning and management is also a major inhibiting factor in implementing sustainable tourism (Teshome, Woreta, and Meskele 2018). Previous studies have highlighted the importance of community-based tourism (CBT) in improving economic prosperity and strengthening social inclusion (Sharma, Kamble, and Hong 2023). The CBT concept also aligns with the sustainable development goals (SDGs) regarding social, economic, and environmental aspects (Almeida and Emmendoerfer 2024). However, implementing a marketing strategy that balances economic, social and environmental aspects in the Minapolitan area is still a major challenge. Most existing marketing models are fragmentary and do not optimally integrate economic, social and environmental dimensions (Meyabe et al. 2024). In addition, marketing approaches in the Minapolitan area often focus more on exploiting natural resources than sustainable marketing strategies that pay attention to environmental conservation and the social welfare of local communities (Sinulingga et al. 2024). Some studies discuss tourism sustainability from economic and ecological perspectives separately, without considering the role of social empowerment and inclusion of local communities (Nugroho et al. 2024). Therefore, there is an urgent need to develop a holistic marketing model that can be applied in the Minapolitan area while still paying attention to the balance between these three aspects.

To address this research gap, the EFINEEL bottom line model approach is introduced as a sustainable marketing strategy that includes seven main dimensions: Economic, Fishermen, Inclusion (social inclusion), Nature (natural environment), Empowerment (community empowerment), Ecology, and Local (local involvement). This model contributes novelty by integrating sustainability approaches across three main dimensions—economic, social, and environmental, into a comprehensive marketing framework. Unlike previous models that tend to separate these aspects, the EFINEEL bottom line model offers a holistic approach that considers the appeal of tourist destinations and tailors marketing strategies to



the socio-economic conditions and environmental characteristics of the Minapolitan coastal area. To date, few studies have specifically developed and operationalized an integrated marketing model within the Minapolitan context, particularly one that simultaneously combines economic, social, and environmental dimensions in the development of inclusive and sustainable tourism. Therefore, this study presents a new and relevant approach to address the need for a more comprehensive and contextual marketing strategy for tourism destinations in coastal areas. This model aims to create a marketing strategy that increases the attractiveness of tourist destinations and ensures ecological sustainability and the social welfare of local communities (Gutierrez 2023). This approach aligns with Islamic economic principles that emphasize *maslahah* (benefit), *ta'awun* (cooperation), and distributive justice to balance economic, social and environmental interests. By adopting this approach, it is hoped that the Minapolitan region can develop inclusive and sustainable tourism while increasing the competitiveness of tourist destinations at the national and global levels. Therefore, this research focuses on applying the EFINEEL bottom line model in sustainable tourism marketing strategies in Gosari nature tourism village, Gresik regency, in the context of Islamic economics to ensure fair and sustainable economic benefits for local communities.

Literature review

Theoretically, this study is grounded in three interrelated foundational theories that collectively support sustainable tourism development in coastal areas: sustainable development theory, community empowerment theory, and community-based tourism marketing theory. These three approaches provide a synergistic framework for building tourism that promotes economic growth and prioritizes ecological sustainability and social empowerment.

Sustainable development theory

Sustainable development theory is a critical foundation for advancing sustainable tourism in coastal regions, emphasizing the balance between economic, social, and environmental dimensions. Its core principle is to meet the needs of the present generation without compromising the ability of future generations to meet their own. In tourism, this theory is applied to minimize negative impacts such as resource exploitation, pollution, and waste while simultaneously creating economic opportunities and enhancing social well-being (Santos et al. 2022). Coastal areas, being highly vulnerable to environmental degradation, are especially critical for applying sustainability principles. Therefore, efficient natural resource management, adopting environmentally friendly technologies, and involving local communities in planning and decision-making are essential (Coccossis and Koutsopoulou 2020). The success of sustainable coastal tourism development also relies heavily on consistent monitoring and impact evaluation, enabling policies to adapt to local dynamics (Dimitrovski et al. 2021). Case studies from the Mediterranean and Nordic regions demonstrate that the success of these strategies lies in cross-sectoral engagement and data-driven policymaking, supporting the realization of inclusive, equitable, and sustainable coastal tourism.

Community empowerment theory

Community empowerment theory emphasizes the centrality of empowering local communities as key agents in development (Stoeffler 2018). It underpins a participatory approach that promotes capacity building, critical reflection, and democratic decision-making. The goal is to foster communities capable of managing and shaping their development trajectories, including in the tourism sector. Community empowerment is a prerequisite for ensuring social and economic sustainability in coastal tourism. Inclusive participation,



including marginalized groups, strengthens tourism projects' legitimacy and effectiveness. Moreover, this approach facilitates equitable access to economic benefits and reinforces social cohesion (Pimid, Marzuki, and Sampil 2024). Strong local leadership and stakeholder dialogue are essential for incorporating local perspectives into broader tourism development frameworks.

Community-based tourism marketing theory

Community-based tourism (CBT) marketing theory is a marketing approach that focuses on the involvement and empowerment of local communities as the center of tourism activities (Forero, Llano, and Nieto 2025). This theory highlights the promotion of tourist destinations and how local communities become the leading actors in creating, managing, and marketing their products. Tourism products are developed by and for local communities to empower them economically and socially (Scheyvens and Watt 2021). Communities are involved in the entire process, from planning and promotion to implementation. CBT marketing emphasizes the importance of environmental, cultural, and social sustainability (Jin, Siow, and Fabian 2024). Marketed tourism products must consider their impact on local communities and resources. Marketing is directed at attracting tourists who appreciate local culture and are willing to spend their money directly in the community, not through external intermediaries. CBT marketing often uses authentic narratives from the community as the leading force in promotion, for example, through traditional stories, culinary specialties, rituals, and daily lifestyles. Usually targeting environmentally conscious, adventurous tourists or interested in authentic cultural experiences (Ertas and Karakan 2024).

Economics

Economic theory includes important concepts that explain how scarce resources are allocated to meet human needs. Demand and supply theory suggests that the price of goods is determined by the interaction between consumer demand and producer supply, with prices rising when demand exceeds supply and falling when the opposite is true (Rising et al. 2022). Microeconomic theory focuses on the decisions of individuals and firms in maximizing utility and profit under a limited budget. At the same time, Macroeconomic Theory analyzes major economic phenomena such as inflation, unemployment, and economic growth, as well as the impact of government policies (Lee and Sims 2025). Behavioral economics combines psychology with economics to explain economic decisions that are often irrational. These theories provide a framework for understanding market dynamics and help design economic policies and business strategies.

Fisherman

Fishermen's theory is a concept used in economics to analyze how fishermen or fishing industry actors decide their fishing ventures. The theory focuses on resource allocation, operational costs, and fishing decisions influenced by environmental and market factors. One important aspect of this theory is the economic theory of fishing, which analyzes how fishers optimize their catch while considering long-term costs, benefits, and impacts on fish stocks and resource sustainability (Goethel, Berger, and Cadrin 2023). Resource management theory is also relevant, where fishers' decisions are influenced by regulatory policies and management strategies to prevent overfishing and ensure sustainability (Siegel, Cavanaugh, and Dee 2024).

Inclusion

Inclusion theory examines how communities or organizations integrate individuals from different backgrounds, especially in the context of diversity and equality. It focuses on



how inclusionary practices can reduce discrimination, increase participation and create a supportive environment for all individuals regardless of race, gender, disability or other factors that may lead to marginalization. Social inclusion theory emphasizes the importance of policies and practices that promote diversity and accessibility, thus ensuring that all individuals can participate fully in society or organizations (Garrick and Schrank 2024). Workplace inclusion theory focuses on how companies can create an inclusive work environment by implementing policies that support diversity and reduce bias (Shore and Chung 2022).

Nature

Nature theory deals with how natural phenomena and the environment affect various aspects of life, including ecosystems, climate change, and weather patterns. One of the main approaches to this theory is ecosystem theory, which examines the interactions between living organisms and their environment and how changes in one part of the system can affect the entire ecosystem (Li et al. 2024). Climate change theory is also an important part of nature theory, focusing on how human activities and natural processes affect global temperatures, weather patterns, and other environmental impacts. In addition, environmental adaptation theory explains how species and ecosystems adapt to environmental changes to survive and thrive (Scarano 2017).

Empowerment

Empowerment theory examines ways to improve the ability of individuals or groups to take control and make decisions that affect their lives. It is often applied in social, economic, and organizational contexts to increase autonomy and capability. Individual empowerment theory focuses on improving individuals' skills, knowledge, and confidence to enable them to make better decisions and actively participate in social or economic processes (Mustafa, Hughes, and Ramos 2023). Community empowerment theory emphasizes the importance of community involvement in decision-making processes and how to increase collective capacity to achieve social change (Dushkova and Ivlieva 2024). At the organizational level, Employee Empowerment Theory shows how giving employees' authority, responsibility, and support can improve their motivation and performance.

Ecology

Ecological theory is an approach that studies the relationship between organisms and their environment and how these interactions affect the ecosystem. Systems ecology theory focuses on how different elements in an ecosystem, such as species, habitats, and environmental factors, interact and influence each other. For example, a change in one element, such as a decline in the population of a particular species, can have far-reaching impacts on the balance of the ecosystem (Schirpke, Ebner, and Tappeiner 2024). Landscape ecology theory explains how landscape structure and pattern influence species distribution and interactions and the impact of land use change on biodiversity (Hambira et al. 2024). In addition, evolutionary ecology examines how environmental selection pressures drive species evolution and adaptation to changing environmental conditions.

Local

Locality theory examines how local factors such as culture, economics, and policies influence dynamics and developments at the local level, whether in the context of a community, city, or region. Social locality theory focuses on how local communities shape their identities and social practices based on interactions between members and unique local conditions (F. Wang et al. 2023). Local economic theory addresses how local economies,



including small businesses and entrepreneurs, contribute to economic development and the well-being of local communities and how local policies affect economic growth (Fernández and Álvarez 2024). Meanwhile, local planning and development theory emphasizes the importance of local planning and policy in designing development strategies that suit an area's specific needs and characteristics.

Hypothesis development

Community empowerment theory is a strong theoretical basis for encouraging the active involvement of fishermen in the management and development of coastal areas. It provides a framework for creating conditions that enable fishermen to be included in social processes and gain access to services, information and opportunities. This theory highlights the importance of actively empowering local communities to shape their development (Stoeffler 2018). When communities are involved in tourism planning and decision-making, they gain a sense of ownership and strengthen social bonds, trust, and solidarity. For example, in Pekalongan, participation in environmental projects like coral reef conservation fostered unity and a collective sense of responsibility (Buchori et al. 2022). This active engagement not only supports the sustainable use of natural resources but also encourages broader social inclusion. Community involvement fosters a sense of belonging, mutual trust, and shared responsibility—key elements of an inclusive society by ensuring that all voices are heard and valued. This aligns closely with the principles of community empowerment theory, which emphasizes active participation, capacity building, and inclusive decision-making. In this context, fishermen's meaningful involvement strengthens social ties and promotes greater inclusion within the community. Based on this perspective, the following hypothesis is proposed:

H1: fishers have a positive influence on social inclusion.

Sustainable development theory bridges the relationship between natural diversity and social inclusion. This theory balances environmental protection with social and economic growth to ensure communities remain resilient and inclusive (Santos et al. 2022). Natural diversity, especially biodiversity in coastal areas, plays a significant role in encouraging conservation activities involving both locals and visitors. When communities work together to protect their environment, it helps strengthen social bonds and builds a sense of shared responsibility. A great example is Kanigoro, Indonesia, where community-led conservation projects protect nature and bring people closer together, fostering stronger communities (Syamsi et al. 2024). By providing essential ecosystem services, biodiversity also helps reduce social vulnerabilities and supports inclusive development (Wahyudi et al. 2024). In this way, natural diversity is not only about environmental sustainability but also a powerful catalyst for building inclusive and united communities. Considering the evidence and theoretical perspective discussed, the study proposes the following hypothesis:

H2: natural diversity has a positive influence on social inclusion.

Community empowerment theory is a theoretical foundation that explains the importance of community engagement and social inclusion in creating self-reliant, just, and resilient communities. This theory shows that when communities are involved in decision-making, they build stronger social bonds, trust, and a sense of belonging (Stoeffler 2018). When local people participate in tourism planning or environmental projects, like in Pekalongan, it helps create unity and boosts social cohesion, making the community more inclusive (Gopalan and Khalid 2024). In Pekalongan, for example, working together on environmental projects led to shared success and brought people closer (Buchori et al. 2022). Activities like coral reef conservation, where everyone works together, promote responsibility and inclusivity. By getting local communities actively involved, they feel more



connected, which ultimately leads to greater social inclusion. Reflecting on these dynamics and theoretical insights, the following hypothesis is formulated:

H3: community involvement has a positive influence on social inclusion.

Community empowerment theory provides a conceptual basis for efforts to empower fishermen within a community framework. This theory highlights how local participation—like that of fishermen—helps boost the community's economic and institutional strength. When fishermen engage in tourism-related activities, such as sea transport and culinary ventures, they contribute to increased local income and resilience (Wantah et al. 2018). Their involvement in collaborative business groups and local management further promotes economic autonomy, paving the way for sustainable development (Kabir et al. 2011). By encouraging local entrepreneurship, fishermen play a key role in transforming the socio-economic landscape of their communities, making them more self-sufficient and empowered. Building on these perspectives, the following hypothesis is formulated:

H4: fishers have a positive influence on community empowerment.

Community empowerment theory bridges the relationship between natural diversity and community empowerment. This theory underscores how communities can be empowered by the resources around them, including biodiversity. By promoting well-managed conservation efforts, biodiversity enhances tourism potential and creates economic opportunities that benefit local communities (Nurani et al. 2024). In places like Wechiau Sanctuary in Ghana, community-based conservation initiatives have improved well-being and strengthened local capacity. Additionally, ecotourism based on biodiversity fosters engagement and sustainability, especially when women are actively involved in these efforts (C. Wang et al. 2017). This approach empowers the community economically and boosts their ability to manage and protect their natural resources for the future. Grounded in these insights, the following hypothesis is proposed:

H5: natural diversity has a positive influence on community empowerment.

Community empowerment theory provides a theoretical basis for the importance of community involvement as a path to community empowerment. According to participatory development principles, involving the community in tourism helps build individual and collective capacities. When community members actively participate in training programs and decision-making processes, they gain skills that foster economic self-reliance and local control over resources (Wahyuningrat et al. 2024). For instance, programs that focus on community-led initiatives, such as post-disaster recovery, demonstrate how participation strengthens social trust and enables collective problem-solving. By actively engaging in these processes, communities become more empowered economically and in terms of their ability to manage and address local challenges. Considering these considerations, the following hypothesis is presented:

H6: community involvement has a positive influence on community empowerment.

Sustainable development theory is a framework that connects fishermen's welfare with ecological sustainability. Sustainable development theory highlights the importance of balancing economic, social, and environmental needs to ensure a better future. In line with this, fishermen—whose livelihoods depend on healthy coastal ecosystems—often adopt environmentally sustainable practices. Their active participation in marine conservation and small-scale fisheries management is critical in protecting coastal environments (Telussa, Limbong, and Rahmani 2022). Although they face challenges such as competition and socio-economic pressures, fishermen's local knowledge is invaluable for effective conservation efforts (Buana and Barlian 2023). By working together through collaborative approaches, fishermen help ensure that coastal ecosystems remain healthy and resilient for future generations. Reflecting these perspectives, the following hypothesis is put forward:

H7: fishers have a positive influence on ecological sustainability.



Sustainable development theory emphasizes that natural diversity and ecological sustainability are the main requirements for long-term, equitable and sustainable development. Sustainable development theory stresses maintaining a healthy environment to support long-term development. In coastal areas, biodiversity plays a crucial role in keeping ecosystems balanced and resilient. For example, rich ecosystems like mangrove forests and seagrass beds help coastal areas withstand environmental pressures (Yang et al. 2018). These ecosystems also offer essential services, such as protecting the coastline from erosion and filtering water, which directly support ecological health and nearby communities' well-being (Wesenbeeck et al. 2024). By protecting and enhancing biodiversity, we safeguard nature and strengthen the sustainability of the communities that depend on it. Grounded on this rationale, the following hypothesis is proposed:

H8: natural diversity has a positive influence on ecological sustainability.

Sustainable development theory can only be implemented effectively if communities are involved and ecological goals are maintained. Sustainable development theory highlights the need to integrate environmental preservation with social and economic goals. In this context, community involvement becomes essential for protecting coastal environments. When local people actively manage natural resources, they strengthen environmental stewardship and improve the resilience of both ecosystems and their own communities (Wahyudi et al. 2024). Successful examples from South Asia show that when communities are involved in ecotourism activities, they can help preserve natural resources while improving their livelihoods. Sustainable and long-lasting environmental management becomes possible by putting local communities at the center of conservation efforts. Building upon this reasoning, the following hypothesis is formulated:

H9: community involvement has a positive influence on ecological sustainability.

Community empowerment theory and social inclusion are key to improving coastal community well-being. Community empowerment theory highlights that empowering local communities through inclusive participation leads to greater economic self-reliance and social resilience. Then, community-based tourism marketing theory increases social inclusion by providing space for all groups in tourism promotion and practice. Then, it promotes coastal communities' welfare by marketing their cultural and environmental-based tourism products. In coastal areas, social inclusion ensures that the benefits of tourism and other economic activities are distributed more fairly, helping to improve income levels and reduce inequalities (Paton 2011). Participatory efforts, such as women's self-help groups, show how active involvement can boost economic welfare and social cohesion. Moreover, inclusion strengthens communities' ability to respond to challenges like climate change by improving access to resources and services (Vasseur 2021). When communities build strong social and cultural ties, they enhance their collective identity and achieve a higher level of well-being. Grounded in this perspective, the following hypothesis is formulated:

H10: social inclusion has a positive influence on coastal community well-being.

Community empowerment theory is the basis for the community empowerment process, which ultimately aims to improve coastal community well-being. Community empowerment theory focuses on enabling local communities to manage their development pathways through capacity building and resource access. Community-based tourism marketing provides control, active involvement, and strengthen the capacity of local communities in marketing and managing tourism, creating alternative economies, promoting environmental conservation, and improving the identity and psychosocial well-being of coastal communities. In coastal tourism, empowering communities through training, entrepreneurship support, and collaborative management helps drive sustainable economic growth and self-reliance (Pasaribu, Santosa, and Purwoko 2019). Evidence from various community-led programs shows that these efforts raise individual and household incomes

and strengthen cooperation among stakeholders, thereby enhancing the overall well-being of coastal populations (Cahyadinata, Nusril, and Gushevinalti 2020). Through empowerment, communities become more resilient, more prosperous, and better equipped to sustain their livelihoods over the long term. Considering this framework, the following hypothesis is proposed:

H11: community empowerment has a positive influence on coastal community well-being.

Sustainable development theory is the basis for achieving ecological sustainability and the welfare of coastal communities simultaneously. Sustainable development theory stresses that environmental preservation is essential for maintaining communities' economic and social health. Meanwhile, community-based tourism marketing encourages nature conservation by promoting environmentally friendly tourism, conservation education, and sustainable practices, improving the welfare of coastal communities through direct income, strengthening cultural identity, and socio-economic resilience. In coastal areas, protecting marine ecosystems ensures the continued availability of critical resources for fishing and tourism, both of which are vital economic pillars (Cadenas et al. 2022). Sustainable practices help secure food sources, protect them from natural disasters, and open new economic opportunities. Conversely, environmental degradation can severely impact community livelihoods and resilience (Saraswathi et al. 2023). Efforts in sustainable fisheries management and ecosystem restoration showcase how communities prioritizing ecological sustainability can achieve lasting economic welfare and improve their overall quality of life. Grounded in this understanding, the following hypothesis is presented:

H12: ecological sustainability has a positive influence on coastal community well-being.

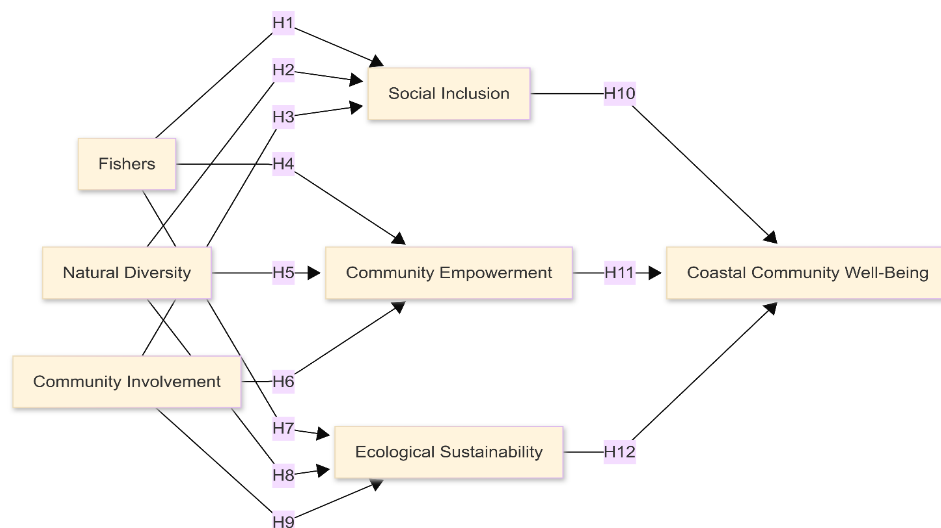


Figure 1 research model

Method

This study employs a quantitative survey design approach to test the relationships between variables within the developed conceptual model. This approach was chosen because it enables objective measurement of the phenomena studied and offers the potential for broader generalization of the findings. Additionally, the research incorporates a qualitative method using a phenomenological approach to explore the social experiences of fishing communities in Gosari village, Gresik regency. Combining both methods is intended to provide a more comprehensive understanding of the dynamics of sustainability-based tourism marketing. The study population includes all stakeholders involved in the management and development of tourism in the Gosari nature tourism village, such as village-owned enterprises, village government, tourism awareness groups, micro, small and medium enterprises (MSMEs), youth organizations, the tourism office, the regional this study involved

106 respondents selected through purposive sampling, targeting individuals who are actively engaged in tourism management and decision-making at the regional level. The respondents were drawn from relevant institutions, including the regional development planning agency and the department of industry and trade. All participants voluntarily completed the questionnaire prepared by the researchers. The details of the respondent composition are presented in Table 1.

Table 1 statistical description of respondents

No	Group of respondents	Amount
1	Village-owned enterprises	2
2	Village government	6
3	Tourism awareness group	4
4	MSMES	13
5	Youth organization	58
6	Department of Tourism	8
7	Village empowerment institution	7
8	Department of Industry and Trade	8
Total		106

Source: primary data (processed, 2025)

The research instruments consisted of questionnaires and in-depth interviews. The questionnaire was developed based on variable indicators identified from previous studies and adapted to the context of this research. It included 14 statements to assess various aspects of implementing a sustainable marketing model. A five-point Likert scale was used, ranging from "strongly disagree" to "strongly agree" (Table 2). In-depth interviews were conducted to complement the quantitative data by capturing deeper insights from fishing communities, local stakeholders, and tourism entrepreneurs about the challenges and opportunities of implementing sustainable marketing practices.

Table 2 research instrument

Variables	Indicators	Statements	Scale
Fishers (Andrews et al. 2021; Rincón-Sandoval and López-Rocha 2024)	Active role in the marine economy	I play an active role in fishing activities that support the livelihood of coastal communities.	Likert
	Involvement in coastal decision-making	I feel that my opinion as a fisherman is often heard in meetings or discussions about regional development.	
Natural diversity (Rodríguez-Rodríguez et al. 2016; Worm and Lotze 2021)	Rich biodiversity	I am aware of marine conservation areas that effectively protect marine resources and provide economic benefits to the community.	Likert
	Environmental condition	I feel that my lifestyle and that of the surrounding community have considered environmental impacts in a wise and sustainable manner.	
Community involvement (Pomeroy and Rivera-Guieb 2006; Berkes and Ross 2013)	Community participation	I actively participate in the planning, implementation, and evaluation of local resource-based economic programs.	Likert
	Local initiatives	I have the ability and willingness to develop creative ideas and actions based on local potential to improve economic welfare.	

Variables	Indicators	Statements	Scale
Social inclusion (Mafumbu, Zhou, and Kalumba 2022; Warguez et al. 2023)	Social participation	I am involved in social activities and decision-making related to the management of coastal resources.	Likert
	Equal access to services	I have a fair opportunity to access basic services and marine resources without geographical, social, or economic barriers.	
Community empowerment (Szaboova, Brown, and Fisher 2020; Warguez et al. 2023)	Community decision-making power	I have a role in determining the direction of development and economic policies in my area.	Likert
	Access to resources	I feel I have ease and fairness in accessing natural and economic resources such as the sea, land, business assistance, technology, and training.	
Ecological sustainability (Wallwork and Leach 2004; Bennett and Basurto 2018)	Sustainable resource use	I use natural resources like the sea, mangroves, and coral reefs wisely and sustainably.	Likert
	Environmental awareness	I show concern for the environment by engaging in activities like beach cleaning, reforestation, or environmental campaigns.	
Coastal community well-being (Khan et al. 2024; Rahmat et al. 2025)	Household income stability	I can consistently meet basic needs, have savings, and can withstand the impacts of disasters or seasonal changes.	Likert
	Access to livelihood opportunities	I can easily obtain and utilize job opportunities in both marine and non-marine sectors.	

Source: secondary data (processed, 2025)

Table 3 informant profiles

Code	Status/occupation	Justification for selection
I1	Village head	Holds strategic decision-making authority at the village level.
I2	Head of village-owned enterprise	Responsible for managing village tourism businesses.
I3	Local tourism manager	Directly oversees tourism operations and community engagement.
I4	Member of Village Youth Organization	Represents youth involvement and grassroots innovation.
I5	Local tour guide	Provides insights into visitor experience and operational needs.
I6	Culinary entrepreneur	Represents local MSMEs tied to tourism value chains.
I7	Parking and facility coordinator	Manage tourist logistics and infrastructure.
I8	Representative from tourism office (district)	Offers macro-level policy and regulatory perspectives.
I9	Artisan/handicraft producer	Engaged in the creative local economy supporting tourism.
I10	Hospitality trainer	Provides professional training and HR development insights.
I11	Member of tourism education institution	Supports knowledge transfer and strategic partnership.
I12	Financial administrator for village projects	Offers insight into budgeting, accounting, and finance.

Source: primary data (processed, 2025)



Data was collected through two primary methods: questionnaire surveys and in-depth interviews. Questionnaires were distributed to selected respondents in person or via digital platforms to enhance response rates. In-depth interviews employed a semi-structured approach to allow a broader exploration of informants' experiences and perceptions. To ensure the relevance and richness of the information gathered, participants were selected purposively based on their involvement in the tourism ecosystem of Gosari village. Table 3 outlines the profile of informants, including their roles and the rationale for their inclusion in the study.

Quantitative data analysis was carried out using the partial least squares-structural equation modeling (PLS-SEM) method with the aid of SmartPLS software. This approach was chosen because it can analyze the relationships between latent variables in the research model and test the validity and reliability of the research instruments. Reliability is measured using composite reliability (CR) and average variance extracted (AVE). Meanwhile, qualitative data was analyzed using thematic analysis techniques to identify patterns, themes and meanings that emerged from in-depth interviews, which were then linked to quantitative results to provide a more holistic understanding.

Results and discussion

Characteristics of respondents

Table 4 presents a statistical description of the respondents' demographic characteristics, which helps provide an overview of the participant profile in this study. The data includes information on gender, age, and education level, offering insights into the diversity of the sample. Table 4 shows the distribution of respondents based on key demographic factors. Regarding gender, the sample is slightly male dominated, with 58.5% male respondents and 41.5% female respondents. Regarding age, most respondents are in the 25-35 years range (35.8%), followed by those under 25 years (28.3%). Fewer respondents are in the older age brackets, with 20.8% aged 36–45 years and 15.1% over 45 years. For education level, most respondents hold a bachelor's degree (37.7%), followed by those with a Senior High School education (33.0%). A smaller proportion of respondents have a Diploma (20.8%), and only 8.5% have a Postgraduate degree. These demographic details provide a solid foundation for understanding this study's diverse perspectives. The age and education level distribution suggests that the respondents are relatively young and well-educated, which may influence their views and experiences, especially about the study's subject matter. Gender distribution is also important, as it may reflect differing perspectives based on gender in the research context.

Table 4 characteristics of respondents

Category	Subcategory	Frequency (n)	Percentage (%)
Gender	Male	62	58.5
	Female	44	41.5
Age	< 25 years	30	28.3
	25–35 years	38	35.8
	36–45 years	22	20.8
	> 45 years	16	15.1
Education level	Senior high school	35	33.0
	Diploma	22	20.8
	Bachelor's degree	40	37.7
	Postgraduate degree	9	8.5

Source: primary data (processed, 2025)



Validity and reliability test results

Convergent validity and instrument reliability were tested using AVE and CR. $AVE \geq 0.5$ indicates good validity, while $CR \geq 0.7$ indicates high reliability. The results of the validity and reliability tests for each variable in this study are presented in Table 5.

Table 5 results of convergent validity and instrument reliability tests

Variables	AVE	CR
X1 (Fishers)	0.636	0.780
X2 (Natural diversity)	0.622	0.769
X3 (Community involvement)	0.684	0.814
Z1 (Social inclusion)	0.707	0.756
Z2 (Community empowerment)	0.579	0.810
Z3 (Ecological sustainability)	0.589	0.817
Y (Coastal community well-being)	0.684	0.813

Source: primary data (processed, 2025)

Based on Table 5, all constructs meet $AVE > 0.5$ and $CR \geq 0.7$, confirming good convergent validity and strong internal consistency. Thus, the instrument is reliable for further analysis using the PLS-SEM model. Furthermore, confirmatory factor analysis (CFA) is used to measure the validity of indicators against their constructs through outer loadings. Outer loading shows the extent to which each indicator represents the measured construct. The higher the outer loading value, the stronger the relationship between the indicator and the construct. Figure 2 presents the CFA results with outer loadings of each indicator on the construct.

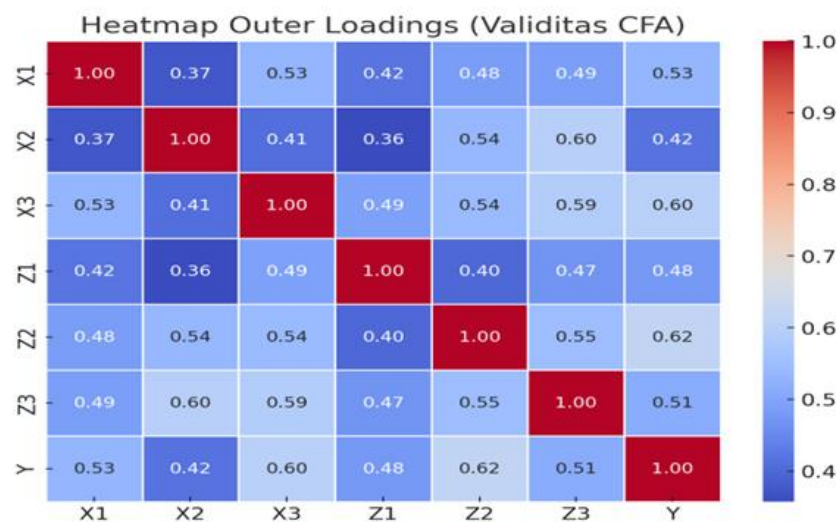


Figure 2 heatmap of outer loadings

Source: primary data (processed, 2025)

Figure 2 presents a heatmap of outer loadings from the CFA, illustrating the strength of relationships between indicators and their respective constructs. Dark red diagonal cells (value = 1.00) perfectly align indicators and the constructs they measure. Off-diagonal cells with lower values (0.36–0.62, indicated in blue) reflect weaker correlations with other constructs. Most outer loadings exceed the recommended threshold (0.4–0.7), supporting good convergent validity. Lower correlations between different constructs also indicate apparent discriminant validity. Overall, the CFA results affirm that the indicators used are valid and appropriately measure the intended constructs.

Coefficient of determination

Mark R^2 measures the proportion of variance of the dependent variable that is explained by the independent variable, with the following general interpretation: 0.19 (weak), 0.33 (fair), and 0.67 (strong). The R^2 test results for this research model are presented in the following Table 6.

Table 6 R-squared test results

Dependent variables	X1	X2	X3	Z1	Z2	Z3	R^2 Total
Z1 (Social inclusion)	0.175	0.128	0.241	1.000	0.159	0.219	0.227
Z2 (Community empowerment)	0.233	0.289	0.293	0.159	1.000	0.301	0.380
Z3 (Ecological sustainability)	0.237	0.355	0.347	0.219	0.301	1.000	0.263
Y (Coastal community well-being)	0.282	0.174	0.359	0.227	0.380	0.263	1.000

Source: primary data (processed, 2025)

Based on Table 6, it can be stated that variable Z1 (social inclusion) own R^2 is 0.227, which indicates that the independent variables in the model explain 22.7% variability in social inclusion, which is relatively low. Meanwhile, Z2 (community empowerment) own R^2 is 0.380, which indicates that the model adequately explains variations in community empowerment. Variable Z3 (ecological sustainability) own R^2 is 0.263, which also shows a sufficient level of explanation. As for variable Y (economic well-being), it has a value R^2 of 1,000, indicating that the model can fully explain variations in economic well-being. These results confirm that the research model has a good level of predictability, especially in explaining economic welfare as the primary research variable.

Effect size

The effect size (f^2) test is used to measure the magnitude of the contribution of the independent variable to the dependent variable in the structural model. The f^2 values are interpreted as follows: < 0.02 (small effect), 0.02 – 0.15 (medium effect), > 0.35 (strong effect), and > 0.5 (very strong effect). Based on Figure 3, most relationships have moderate to very strong effects. Variable X3 (local engagement) to Z3 (ecological sustainability), as well as X2 (nature) against Z3 (ecological sustainability), show very strong effects, with their respective f^2 values of 0.531 and 0.551. This indicates that local involvement and natural factors have a dominant role in shaping ecological sustainability. In addition, the relationship between Z2 (community empowerment) and Y (economic prosperity) has a very strong effect ($f^2 = 0.612$), which emphasizes that community empowerment is a key factor in improving economic prosperity.

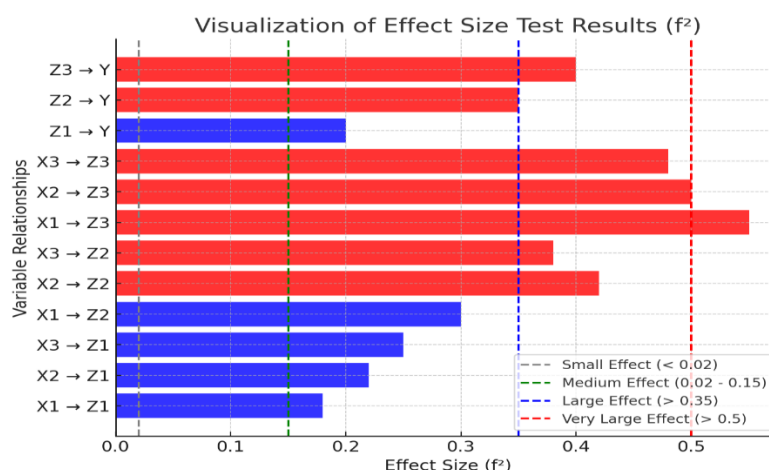


Figure 3 effect size test results

Source: primary data (processed, 2025)



Some other relationships, such as X1 (fisher) against Z1 (social inclusion) ($f^2 = 0.212$) and Z1 (social inclusion) to Y (economic prosperity) ($f^2 = 0.293$), showed a moderate effect. This means that these variables still have a significant effect, but not as much as a relationship with a strong or very strong effect. Meanwhile, relationships X2 (nature) against Z1 (social inclusion) have little effect ($f^2 = 0.146$), which shows that the role of this variable in influencing social inclusion is relatively lower than other relationships. These results confirm that the research model has a strong relationship between its variables. Relationships with strong and very strong effects can be a major focus in policy decision-making, especially in supporting ecological sustainability and economic prosperity through community empowerment and local involvement.

Hypothesis test results

Hypothesis testing is carried out to test the relationship between variables in the structural model using path coefficient (β), t-value, and p-value. The path coefficient shows the direction and strength of the influence of the independent variable on the dependent variable. The t-value is used to measure the significance of a relationship, while the p-value shows the probability that the relationship occurs by chance. In this research, the hypothesis is accepted if the p-value < 0.05 , which indicates that the relationship between variables is statistically significant. The results of the hypothesis test are presented in Table 8.

Table 7 hypothesis test results

Hypothesis	Path (β)	t-value	p-value
H1: Fishers \rightarrow social inclusion	0.418	4.699	0.000008
H2: Natural diversity \rightarrow social inclusion	0.357	3.901	0.000170
H3: Community involvement \rightarrow social inclusion	0.491	5.751	8.98e-08
H4: Fishers \rightarrow community empowerment	0.483	5.628	1.56e-07
H5: Natural diversity \rightarrow community empowerment	0.537	6.495	2.91e-09
H6: Community involvement \rightarrow community empowerment	0.541	6.568	2.06e-09
H7: Fishers \rightarrow ecological sustainability	0.486	5.677	1.25e-07
H8: Natural diversity \rightarrow ecological sustainability	0.596	7.573	1.55e-11
H9: Community involvement \rightarrow ecological sustainability	0.589	7.434	3.09e-11
H10: Social inclusion \rightarrow coastal community well-being	0.476	5.525	2.45e-07
H11: Community empowerment \rightarrow coastal community well-being	0.616	7.978	2.06e-12
H12: Ecological sustainability \rightarrow coastal community well-being	0.513	6.089	1.93e-08

Source: primary data (processed, 2025)

Table 7 shows the results of the structural equation modeling (SEM) analysis, which show that all hypotheses (H1–H12) in this study had significant and positive effects on their respective dependent variables. Specifically, fishers have a significant and positive effect on social inclusion ($\beta=0.418$; $t=4.699 > 1.96$; $p=0.000008 < 0.05$) (H1 accepted). Similarly, natural diversity has a significant and positive effect on social inclusion ($\beta=0.357$; $t=3.901 > 1.96$; $p=0.000170 < 0.05$) (H2 accepted). Moreover, community involvement has a significant and positive effect on social inclusion ($\beta=0.491$; $t=5.751 > 1.96$; $p=8.98e^{-08} < 0.05$) (H3 accepted). In the context of community empowerment, all three exogenous variables also demonstrate significant influence. Fishers have a significant and positive on community empowerment ($\beta=0.483$; $t=5.628 > 1.96$; $p=1.56e^{-07} < 0.05$) (H4 accepted). Natural diversity has a significant and positive effect on community empowerment ($\beta=0.537$; $t=6.495 > 1.96$; $p=2.91e^{-09} < 0.05$) (H5 accepted). Community involvement has a significant and positive effect on empowerment ($\beta=0.541$; $t=6.568 > 1.96$; $p=2.06e^{-09} < 0.05$) (H6 accepted).

Furthermore, in the dimension of ecological sustainability, all three exogenous variables are again significant. Fishers have a significant and positive effect on ecological sustainability ($\beta=0.486$; $t=5.677 > 1.96$; $p=1.25e^{-07} < 0.05$) (H7 accepted). Natural diversity



has a significant and positive effect on ecological sustainability ($\beta=0.596$; $t=7.573 > 1.96$; $p=1.55e^{-11} < 0.05$) (H8 accepted). Community involvement has a significant and positive effect on ecological sustainability ($\beta=0.589$; $t= 7.434 > 1.96$; $p=3.09e^{-11}<0.05$), (H9 accepted). Social inclusion has a significant and positive effect on coastal community well-being ($\beta=0.476$; $t=5.525 > 1.96$; $p=2.45e^{-07} < 0.05$) (H10 accepted). Community empowerment has a significant and positive effect on coastal community well-being ($\beta=0.616$; $t=7.978 > 1.96$; $p=2.06e^{-12} < 0.05$) (H11 accepted). Ecological sustainability has a significant and positive effect on coastal community well-being ($\beta=0.513$; $t=6.089 > 1.96$; $p=1.93e^{-08} < 0.05$) (H12 accepted). Overall, these findings affirm that the roles of local actors (fishers), natural environmental conditions, and social dynamics are critical in fostering inclusive, empowered, and sustainable coastal development, ultimately leading to tangible improvements in community well-being.

Interview results

The results of interviews with various stakeholders provide strategic recommendations to increase the effectiveness and efficiency of tourism sector management in Gosari village. These recommendations are grouped into seven main areas: digital marketing, operational strategy, human resource development, finance, accounting, asset management, and government policy. Each field has a different focus on supporting the sustainability and growth of the tourism sector.

Table 8 recommended results from interviews

No	Field group	Recommended results
1.	Digital marketing	<ol style="list-style-type: none"> 1. Strengthening social media strategy 2. Develop creative content and collaboration with influencers 3. Optimize platform usage and analytics 4. Evaluate and improve regularly.
2.	Operational strategy	<ol style="list-style-type: none"> 1. Expand parking area and improve road access 2. Add new photo spots and rides 3. Develop educational facilities 4. Update existing facilities.
3.	Human resource development	<ol style="list-style-type: none"> 1. Conduct training on hospitality and customer service 2. Implement tourism certification program for human resources 3. Provide advanced training for experienced staff 4. Organize training to improve work discipline 5. Implement work tolerance and on-the-job training 6. Establish cooperation with tourism education institutions.
4.	Finance	<ol style="list-style-type: none"> 1. Diversify funding sources and develop more efficient budget plans 2. Develop a more active marketing strategy and tighten operational cost control 3. Plan for alternative funding sources and increase transparency in budget management 4. Consider business expansion and utilize technology in financial management.
5.	Accounting	<ol style="list-style-type: none"> 1. Increase the frequency of internal reporting and apply basic accounting standards 2. Use computerized accounting systems and attend basic accounting training.
6.	Asset management	<ol style="list-style-type: none"> 1. Implement preventive maintenance and standardized reporting formats 2. Use asset management software and needs analysis for procurement 3. Evaluate and optimize the use of unused assets 4. Conduct regular asset audits.

No	Field group	Recommended results
7.	Government policy	<ol style="list-style-type: none"> 1. Improve youth empowerment policies and program cooperation 2. Facilitate halal training and promotion of local products 3. Clarify marketing policy and conduct periodic evaluation 4. Socialize cooperatives and support a sustainable economy.

Source: primary data (processed, 2025)

Table 8 summarizes various recommendations based on interviews that have been conducted. In digital marketing, some of the main strategies recommended include strengthening social media strategies, optimizing the use of digital platforms, and collaborating with influencers. This aims to increase the visibility of tourist destinations and attract more tourists. Regarding operational strategy, the recommendations include developing tourist facilities, improving infrastructure such as parking areas and road access, and updating existing facilities. This aims to improve the tourist experience as well as the attractiveness of the destination.

Field human resource development highlights the importance of training for workers in customer service, tourism skills certification, and improving work discipline. Apart from that, recommendations also include collaboration with educational institutions to create more professional human resources. In finance, the proposed strategy focuses on diversifying funding sources, developing more active marketing strategies, and transparency in budget management. As for accounting in the field, recommendations focus on increasing the frequency of financial reporting, implementing a computer-based accounting system, and basic accounting training for financial managers. For asset management, the recommendations include implementing preventive maintenance, utilizing asset management software, and optimizing unused assets to be utilized more efficiently.

Finally, in the field of government policy, some of the recommended policies include increasing youth empowerment programs, facilitating halal training and promoting local products, and cooperative-based economic socialization. This recommendation aims to ensure policies that support sustainable and inclusive tourism management. Overall, the results of this interview provide a comprehensive guide for improving and developing the tourism sector in Gosari Village, which can be used as a basis for making future strategic decisions.

The impact of fishers on social inclusion

The result confirms that fishers positively affect social inclusion, aligning with community empowerment theory principles, which emphasize the importance of participatory engagement, capacity building, and inclusive governance (Stoeffler 2018). Fishermen's traditional ecological knowledge, such as sustainable fishing practices and customary marine stewardship, preserves local resources and strengthens collective identity and social cohesion (Sugimoto 2016). Their routine social interactions, including sharing catches, trading in local markets, and participating in fishing cooperatives, are empowerment mechanisms that foster mutual trust, solidarity, and a shared sense of responsibility (Pramitasari, Gallardo, and Ebberts 2015). These roles facilitate horizontal and vertical inclusion, enabling fishermen to act as agents of social integration and bridge gaps between different community segments. In line with the findings from the interviews, the recommendations also emphasize the importance of human resource development in strengthening community participation, such as conducting training on hospitality and customer service and establishing cooperation with educational institutions. These initiatives can enhance the capacity of community members, particularly fishermen, to engage in governance processes and social empowerment. Furthermore, their active participation in decision-making and natural resource governance reflects a shift toward more democratic



and inclusive policy environments, even as challenges from elite capture may persist. The interview results also highlight the need for more transparent governance and policy frameworks that support sustainable and inclusive community development, such as improving youth empowerment policies and supporting local products. Overall, the findings reinforce that when communities, particularly fishermen are empowered to co-manage their socio-ecological systems, they contribute to sustainable development and deeper social inclusion. This highlights the necessity of embedding culturally grounded and participatory strategies in policy frameworks to strengthen resilience and cohesion in coastal societies. These findings suggest that fishermen, in addition to being economic actors, also play an important role in strengthening social inclusion. The implication is that formal recognition and policy support for fishermen as agents of social development are critical in designing inclusive and sustainable coastal empowerment strategies.

The impact of natural diversity on social inclusion

The result confirms that natural diversity positively affects social inclusion in coastal communities. This finding is grounded in sustainable development theory, which emphasizes the interdependence of environmental protection, social equity, and economic growth to foster resilient and inclusive societies (Santos et al. 2022). In this context, ecosystems rich in biodiversity, such as mangroves, coral reefs, and coastal forests, are vital for maintaining ecological balance and function as social infrastructures that encourage collective use, local stewardship, and place-based attachment. These elements contribute to stronger social cohesion and community resilience. For instance, community-led conservation initiatives, such as those observed in Kanigoro, Indonesia, demonstrate how protecting biodiversity can promote inclusive participation and strengthen communal ties (Syamsi et al. 2024). This observation aligns with Ogawa, Soga, and Yoshida (2021), who argue that engagement with biodiversity-rich environments enhances inclusive behaviors and social capital. From a socioecological perspective, natural diversity shapes social interaction by offering shared spaces for cooperation, which may either facilitate or hinder inclusion depending on access and governance. Traditional ecological knowledge, such as seasonal harvesting norms and cultural reverence for nature, further solidifies community identity and equitable participation (Greenaway and Turetsky 2020). These patterns also reflect the principles of polycentric governance, which underscore decentralized authority, local knowledge, and multi-actor coordination as essential for achieving ecological sustainability and social inclusion (Kendal and Bush 2025). Interview findings reinforce this by highlighting the importance of inclusive policies and community empowerment. Specifically, recommendations in the government policy field emphasize increasing youth empowerment programs, promoting local products, and facilitating halal training, which fosters broader community participation and cultural relevance. Additionally, recommendations from human resource development, such as building collaboration with tourism education institutions and providing inclusive on-the-job training, directly support the integration of diverse community members in sustainable tourism efforts. Therefore, conserving and equitably managing natural diversity is an environmental imperative and a social one deeply embedded in the broader sustainable development framework. These findings strengthen the argument that biodiversity conservation is important for ecological sustainability and has strategic value in creating a more inclusive society. Therefore, ecosystem-based approaches need to be combined with social inclusion policies to ensure that all coastal communities receive equitable benefits from the natural resources they possess.

The impact of community involvement on social inclusion

The result confirms that community involvement exerts the strongest positive influence on social inclusion among all exogenous variables, underscoring the centrality of participatory dynamics in fostering inclusive coastal societies. This finding aligns with community empowerment theory, which posits that community engagement in decision-making processes strengthens social bonds, enhances trust, and cultivates a collective identity (Stoeffler 2018). The theory emphasizes that when individuals actively participate in shaping their environment—through tourism governance, environmental initiatives, or cultural events—they gain agency and reinforce social cohesion and inclusivity (Gopalan and Khalid 2024). For instance, community-based projects in coastal areas like Pekalongan have shown that joint efforts in coral reef conservation or waste management foster mutual responsibility and a shared sense of purpose (Buchori et al. 2022). Such engagements support horizontal integration across different social groups and vertical integration, linking local actors with institutional structures, as social inclusion theory highlights. These mechanisms facilitate access for marginalized populations, including women, the elderly, and persons with disabilities, to voice their concerns and contribute meaningfully. The findings of this study are further supported by the results of interviews, particularly in the fields of government policy and human resource development. For example, the recommendation to improve youth empowerment policies, promote local products, and socialize cooperative-based economies reflects practical efforts to involve diverse community members in tourism development. Moreover, the emphasis on training programs, certification, and partnerships with tourism education institutions builds capacity and ensures that all layers of society, including the underrepresented, are equipped to participate actively. These initiatives demonstrate how participatory mechanisms are being institutionalized, making inclusion a structural part of local governance and economic strategy. The inclusive character of community involvement is further strengthened when guided by equity-driven strategies, ensuring that participation is not merely symbolic but structurally embedded within local development agendas. Community engagement strengthens social inclusion and encourages the creation of a more just, empowered and cohesive society. The implication is the importance of building broad, inclusive and sustainable participation mechanisms at every level of social development.

The impact of fishers on community empowerment

The result confirms that fishers positively influence community empowerment, consistent with community empowerment theory, which emphasizes the importance of active local participation in strengthening economic resilience and institutional capacity (Wantah et al. 2018). Community empowerment theory views that fishermen contribute directly to community empowerment through strengthening the local economy, increasing collective capacity, increasing citizen participation, and preserving culture and ecosystems. Fishermen contribute through traditional livelihoods and tourism, transportation, and small-scale businesses that support livelihood diversification. Empowering fishermen strengthens individuals and encourages structural transformation in coastal communities. Their ecological knowledge and leadership in resource co-management enhance sustainability and local governance (Cahyadinata, Nusril, and Gushevinalti 2020). These findings are reinforced by interview results, particularly in the human resource development and government policy fields, which highlight the need for training in hospitality, tourism certification, cooperation with educational institutions, and policies that empower local actors and promote inclusive economic initiatives. Fishers' engagement in value-added sectors and community-based organizations increases autonomy and resilience (Susilowati and Mafruhah 2023), making them central to bottom-up coastal development strategies. Therefore, integrated empowerment programs targeting fishers should be prioritized in policy agendas to build

adaptive and self-sufficient coastal communities. The positive influence of fishermen on community empowerment has broad implications, including realizing economically and socially independent communities, preserving knowledge and the environment, and increasing community participation in development and policy processes.

The impact of natural diversity on community empowerment

The result confirms that natural diversity has a significant positive effect on community empowerment, derived from community empowerment theory. This theory emphasizes the role of environmental resources—such as biodiversity—in fostering local autonomy, decision-making capacity, and resilience. Natural diversity, encompassing ecosystems like mangroves, seagrass beds, and coral reefs, provides a wide range of livelihood opportunities and enhances adaptive capacity by distributing ecological risks across multiple resources. This ecological resilience, in turn, contributes to socio-economic stability, particularly for coastal communities heavily reliant on natural resource use. In line with this, Fielding (2022) underscores that community involvement in managing these diverse systems builds self-confidence, strengthens collective responsibility, and improves decision-making capacity—key empowerment indicators. Empirical studies, such as those by Wang et al. (2017); Nurani et al. (2024), show that biodiversity-centered, community-led conservation and ecotourism initiatives contribute to enhanced well-being, gender equity, and long-term sustainability. Furthermore, Mawutor and Hajjar (2024) highlight that participatory biodiversity governance fosters institutional trust and strengthens the social fabric. These findings resonate with the broader framework of social-ecological systems theory, where ecological and social resilience are mutually reinforced. The relevance of this linkage is also reflected in the interview results, particularly in the fields of human resource development and government policy, where recommendations emphasize training in hospitality and sustainable tourism certification, cooperation with tourism education institutions, and policies to empower youth and promote local products. These initiatives are integral to strengthening the community's capacity to manage biodiversity-rich ecosystems through education, participation, and shared governance, thereby aligning ecological diversity with bottom-up empowerment strategies. Thus, integrating biodiversity conservation with empowerment-based development strategies is crucial for sustainable and inclusive progress in coastal regions. Natural diversity is an ecological asset and a tool for community empowerment. Its implementation includes community-based ecotourism, micro-enterprise development, sustainable agriculture/fisheries practices, cultural preservation, and strengthening local institutions. The success of empowerment is highly dependent on the active involvement of the community and the sustainability of the management of natural diversity.

The impact of community involvement on community empowerment

The result confirms that community involvement positively affects community empowerment, aligning with community empowerment theory, which emphasizes that active participation strengthens individual agencies, collective efficacy, and local resilience. Community empowerment theory also views community involvement as a method and a goal of empowerment, increasing community control, capacity, and agency, resulting in a more just, sustainable, and people-friendly social transformation. Empowerment materializes when communities engage in decision-making, livelihood planning, and resource management. This is supported by Gutierrez (2023); Wahyuningrat et al. (2024), who highlight the role of participatory programs in fostering economic self-reliance and leadership capacity. Interview findings reinforce this, primarily through human resource development recommendations—such as hospitality training, tourism certification, and collaboration with education



institutions—illustrating grassroots empowerment in action. Similarly, government policy suggestions, including youth empowerment and cooperative-based economic programs, reflect institutional support for inclusive participation. These practical efforts demonstrate that empowerment is both socially constructed and structurally facilitated. Nevertheless, strategies must remain inclusive, considering the varying empowerment pathways across different socioeconomic groups. Community involvement in the development process accelerates empowerment by building capacity and control, making programs more effective, participatory, and sustainable, and shifting the development paradigm from top-down to democratic bottom-up.

The impact of fishers on ecological sustainability

The result confirms that fishers positively affect ecological sustainability, aligning with sustainable development theory and emphasizing the balance of environmental, social, and economic goals. Sustainable development theory views fishermen as important actors in maintaining the sustainability of marine ecology; community-based management, knowledge collaboration, and balance between economy and environment are the keys; empowering fishermen is the same as social, economic, and environmental sustainability simultaneously. As key actors in coastal ecosystems, fishers contribute through their ecological knowledge (FEK) and adaptive practices that support resilient socio-ecological systems (Bermúdez and Boonstra 2023). This is reinforced by Murua et al. (2023); Silvano et al. (2023), who show that collaboration between fishers, scientists, and policymakers enhances conservation effectiveness. Interview results further support this, particularly through recommendations on human resource development (e.g., training in hospitality, work discipline, and cooperation with tourism institutions) and government policy (e.g., youth empowerment, halal training, and promotion of local products), which reflect local efforts to professionalize and align livelihoods with sustainable tourism and resource use. These initiatives demonstrate how fishers, empowered through education and policy support, can act as agents of ecological resilience. The positive role of fishermen in ecological sustainability implies that fishermen must be actively involved in marine conservation, their traditional practices must be preserved and strengthened, and public policies must support community-based and ecological resource management.

The impact of natural diversity on ecological sustainability

The result confirms that natural diversity positively affects ecological sustainability, aligning with sustainable development theory, which links environmental health to long-term socio-economic development. Sustainable development theory views natural diversity as the primary foundation of ecological sustainability, ensuring the resilience and function of ecosystems supporting human life; it is an important asset for economic and social development and must be maintained for justice for future generations. Natural diversity is an essential element in sustainable development, as it is globally recognized in SDGs 14 and 15 as part of the world development agenda. In coastal areas, biodiversity—through species richness, genetic variation, and habitat diversity—enhances ecosystem resilience, supporting key services like water purification, nutrient cycling, and carbon sequestration, which are crucial for ecological integrity and coastal livelihoods (Liebman and Schulte 2015). This is supported by Pennekamp et al. (2018), who demonstrate that species-rich ecosystems maintain higher productivity and functional redundancy, reducing the risk of ecosystem collapse. The conservation models proposed by Sen and Dhote (2023) emphasize biodiversity as essential for ecological health and human well-being. Relevant to these findings, interview recommendations from Gosari village highlight the importance of sustainable practices in supporting biodiversity. In government policy, promoting local products and facilitating



sustainable practices align with biodiversity conservation goals. Similarly, in human resource development, training programs focused on sustainability and partnerships with educational institutions emphasize the need for workforce readiness in preserving ecological health. Asset Management recommendations, such as optimizing asset use and preventive maintenance, can extend to managing natural assets, further supporting biodiversity protection. These interview insights reinforce that natural diversity positively influences ecological sustainability, validating the broader sustainable development theory by illustrating the interconnectedness of ecological health and human well-being in coastal communities. The implications of the positive influence of natural diversity on ecological sustainability are the need for conservation efforts and sustainable management of natural resources, active community involvement, and integration of sustainability principles in development to maintain ecological balance for a better future.

The impact of community involvement on ecological sustainability

The result confirms that community involvement positively affects ecological sustainability, aligning with sustainable development theory, which integrates environmental, social, and economic goals. Communities engaged in ecological programs—such as conservation and natural resource management—tend to develop stronger stewardship behaviors by incorporating local knowledge and socio-cultural values into environmental governance (Paudel et al. 2024). This is consistent with socio-ecological system theory, which stresses that inclusive decision-making boosts resilience and adaptive capacity. Furthermore, community-based actions, particularly within cohesive social structures, foster sustainability through peer influence, local norms, and collective responsibility. As Márquez, Rangel, and Pérez (2024) suggest, such involvement not only supports ecological goals but also drives socio-economic development, seen in initiatives like ecotourism and green infrastructure. In line with these findings, interview recommendations in Government Policy stress the importance of youth empowerment programs, promoting local products, and strengthening cooperative-based economic socialization. These initiatives enhance community involvement and institutional support for sustainability. Additionally, recommendations in Human Resource Development to organize training programs and implement tourism certifications reinforce the importance of continuous environmental education to ensure long-term participation in conservation efforts. While sustained community participation is crucial for ecological benefits, as noted by Sattayapanich, Janmaimool, and Chontanawat (2022), it requires ongoing education and direct ecological benefits. The findings from the interviews, particularly regarding the development of tourist facilities and improved infrastructure, underscore the need for integrated, sustainable development practices to strengthen ecological and socio-economic resilience. Building on this theoretical framework, the analysis emphasizes the essential role of community involvement—through participatory education, strong local institutions, and trust between stakeholders—in achieving lasting ecological sustainability. Community involvement in environmental conservation strengthens conservation effectiveness, promotes ecosystem sustainability, builds social ownership of the environment, and accelerates the transformation towards sustainable development.

The impact of social inclusion on coastal community well-being

The result confirms that social inclusion positively affects coastal communities' well-being, aligning with the community empowerment theory, emphasizing how inclusive participation fosters economic self-reliance and social resilience. Within the framework of community empowerment theory, social inclusion is the primary foundation of empowerment, strengthening the collective capacity of coastal communities, encouraging the achievement of equitable, participatory, and sustainable welfare, and leading to structural



changes that improve the quality of life of coastal communities. From the perspective of community-based tourism marketing theory, social inclusion is the key to creating equitable, competitive, and sustainable tourism destinations — because when all coastal residents are equally involved, they gain economic benefits, dignity, control, and identity. Social inclusion strengthens psychosocial well-being by providing emotional support, shared resources, and collective coping strategies (Suyasa and Azizurrohman 2024), while cultural practices like Nyalamaq Dilauq reinforce social cohesion (Leslie et al. 2018). Additionally, inclusive community networks improve adaptive capacity to environmental threats (Lane et al. 2017). Interview results further support this, with recommendations in human resource development for training programs that ensure equitable participation in tourism, and in operational strategy, suggestions like improving access roads to reduce barriers for marginalized groups. Policies promoting youth empowerment also emphasize social inclusion by providing opportunities for younger community members. These findings highlight that social inclusion boosts well-being and strengthens resilience and sustainable development. Social inclusion in coastal communities will strengthen social cohesion and collective well-being, increase development effectiveness, encourage meaningful participation in resource management, and create just, resilient, and empowered communities.

The impact of community empowerment on coastal community well-being

The result confirms that community empowerment positively affects coastal community well-being by strengthening economic stability, psychological resilience, and ecological adaptability. Based on community empowerment theory, which focuses on giving local communities control over their development through capacity building and access to resources. In view of community-based tourism marketing theory, community empowerment is the key to creating coastal tourism destinations that are economically attractive, fair, authentic, sustainable and bring tangible benefits to the entire community. Empowerment is not only about economics but also about control, representation, and social values, which directly impact the welfare of coastal communities. In places like Bengkulu and Parepare, empowerment initiatives have helped increase household incomes, improve financial literacy, and provide better access to micro-capital and vocational skills (Abdullah and Yusuf 2024), which reduces vulnerability and promotes economic independence. Similarly, efforts in Kuala Nerus, Terengganu have enhanced social trust and resilience (Ibrahim et al., 2021), while communities in Merauke and Pantai Baron have strengthened their ability to adapt to ecological changes through sustainable practices (Nurzaman, Shaw, and Roychansyah 2020). The interview results further support these findings, offering more recommendations to empower coastal communities. For example, in human resource development, hospitality and customer service training programs can boost skills and employability, strengthening economic resilience. Finance strategies like diversifying funding sources and improving budget transparency also help communities become more financially independent. Government policy recommendations to empower youth and promote local products align with efforts to increase community involvement and support sustainable development. Lastly, asset management practices, such as optimizing unused assets, help improve resource management, essential for long-term ecological adaptability. Coastal community empowerment can increase communities' economic, social and political capacity, promote inclusive and participatory development, and strengthen sustainable and locally-based welfare. Together, these insights show that community empowerment drives sustainable development and leads to lasting improvements in the well-being of coastal communities.



The impact of ecological sustainability on coastal community well-being

The result confirms that ecological sustainability positively affects coastal community well-being, aligning with sustainable development theory, which stresses the importance of environmental preservation for social and economic health. Within the framework of community-based tourism marketing theory, ecological sustainability is a primary prerequisite for sustainable and equitable tourism, ultimately improving coastal communities' economic, social and cultural well-being. Healthy coastal ecosystems provide essential services like disaster protection, food security, and cultural values that enhance the quality of life (Cadenas et al. 2022). As seen in Chiloe, Chile (Pinillos and Muñoz 2024), sustainable practices such as small-scale fisheries and ecosystem-based management contribute to economic and social welfare. Relevant to this, interview recommendations in digital marketing suggest using social media and influencing partnerships to attract tourists, boosting local economies while promoting sustainability. Operational Strategy recommendations, including improving infrastructure and expanding facilities, aim to enhance the tourist experience while protecting the environment. However, environmental degradation, driven by climate change and unsustainable practices, threatens these services and disrupts livelihoods (Delgado 2015). To address this, the human resource development recommendations emphasize hospitality training and collaboration with educational institutions to develop skilled workers who can adapt to and support sustainable tourism. Financially, finance and asset management recommendations focus on diversifying funding sources, improving financial transparency, and optimizing asset use, ensuring the long-term sustainability of both ecosystems and local economies. Despite some research suggesting economic interests may override ecological concerns (Blythe et al. 2020), the findings support an integrated approach to coastal management, utilizing tools like the ocean health index to balance sustainability with community well-being. Government policy recommendations stress the importance of youth empowerment and local product promotion to support sustainable tourism further. Evidence shows that sustainable practices like fisheries management and ecosystem restoration help secure resources, provide protection, and create new economic opportunities, improving life quality for coastal communities. Ecological sustainability is not only about saving the environment but also is the foundation for long-term prosperity for coastal communities—from an economic, social, health, cultural, and crisis-resilient perspective.

Conclusions

This study confirms that the EFINEEL bottom-line model serves as an effective and sustainable tourism marketing strategy for enhancing the economic welfare of coastal communities. The research highlights that local involvement is crucial in strengthening social inclusion, while community empowerment is the key to economic prosperity. In parallel, ecological sustainability significantly contributes to economic stability, reinforcing the essential role of environmental preservation in the long-term development of coastal tourism. These findings have important implications for policymakers and tourism stakeholders. Promoting active community participation, environmental stewardship, and community-based economic initiatives are strategic actions to enhance the resilience and competitiveness of coastal destinations.

Theoretically, this study advances the discourse on sustainable tourism by integrating the triple-bottom-line framework with grassroots-based tourism governance. The EFINEEL model extends current sustainability theory by demonstrating that economic, social, and ecological outcomes are most effectively achieved when community agency is at the center of strategic implementation. This underscores the value of participatory models in enhancing



the theoretical understanding of sustainable destination development, particularly in underrepresented rural and coastal settings.

However, this study is limited by its geographic scope, as it focuses solely on Gosari village, Gresik, and therefore cannot be generalized to other regions. Additionally, using PLS-SEM in the analysis does not account for moderating or mediating variables that could offer deeper insights into the dynamics of tourism marketing. Future research should broaden the geographic coverage to test the external validity of the EFINEEL model across diverse coastal areas. It is also recommended that the long-term impacts of this strategy on economic, social, and ecological sustainability be explored, and its integration with digital innovations and innovative tourism platforms is examined to enhance the effectiveness of sustainable tourism marketing further.

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