

Designing EDGE (Enhanced destination growth and engagement) to Improve the performance of marine tourism in East Java

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Abstract: Marine tourism has emerged as a significant contributor to the regional economy in East Java, Indonesia. However, the growth of this sector is hindered by inadequate infrastructure, limited community engagement, and underdeveloped marketing strategies. This research presents the EDGE (Enhanced Destination Growth and Engagement) model as a comprehensive solution to enhance the performance of marine tourism destinations in East Java. EDGE is a strategic framework that integrates sustainable destination management, innovation-driven tourism product development, and community-based participation. The study employs a mixed-method approach, incorporating both qualitative and quantitative analyses. Key findings reveal that the implementation of EDGE leads to increased visitor satisfaction, improved local community involvement, and heightened environmental sustainability. Recommendations for policy integration and long-term development are also discussed.

Keywords: *Community engagement, Destination management, East Java, Innovation, Marine tourism, Sustainable tourism.*

1. Introduction

Marine tourism has become one of the strategic sectors in regional economic development in various countries, including Indonesia. With its long coastline and abundant marine ecosystems, Indonesia has significant potential to develop marine-based tourism. East Java, as one of the regions with considerable marine tourism potential, faces quite complex challenges in maximizing this potential. These challenges are not limited to infrastructure aspects but also include the lack of innovation in tourism products and low local community involvement in managing marine tourism destinations (Putra et al., 2020).

One of the main issues faced by marine tourism destinations in East Java is the suboptimal management of sustainable destinations. Improper management can lead to marine ecosystem degradation, a decline in the quality of tourist experiences, and unsustainable economic benefits for local communities (Kusuma & Santosa, 2019). Therefore, there is a need for a destination management model that not only focuses on increasing tourist visits but also on product innovation, enhancing community involvement, and environmental sustainability.

This study introduces the EDGE (Enhanced Destination Growth and Engagement) model as an effort to improve the performance of marine tourism in East Java. The EDGE concept aims to promote destination growth through increased community involvement, the development of innovative tourism products, and sustainable management. This model emphasizes the importance of collaboration between the government, local communities, and the private sector in building competitive and sustainable tourism destinations (Sutanto, 2021).

Several previous studies have shown that innovation in destination management can be a key factor in enhancing tourist attraction and improving local community welfare. For example, research by Pearce (2018) found that innovation in nature-based tourism products, such as ecotourism and conservation tourism, can increase tourist interest while simultaneously preserving the environment. Meanwhile, the role of local community involvement in destination management, studied by Timothy

(2017), is considered an important element in maintaining the social and economic sustainability of destinations.

On the other hand, the implementation of sustainability in destination management has become increasingly important amid rising tourist awareness of environmental impacts. Research by Lane and Bramwell (2020) shows that tourists are more interested in destinations that offer sustainable tourism experiences. In this context, the EDGE model seeks to address these challenges by designing management strategies that not only focus on enhancing tourist attraction but also ensure that destination development is carried out sustainably, in terms of environmental, social, and economic aspects.

Thus, this study aims to evaluate the effectiveness of the EDGE model in improving the performance of marine tourism in East Java, particularly in terms of enhancing tourist attraction, fostering local community involvement, and ensuring environmental sustainability. It is expected that this research will contribute to the body of knowledge on sustainable destination management and offer practical recommendations for policymakers in East Java's tourism sector to optimize the potential of marine tourism.

2. Literature Review

Research on marine tourism has experienced significant growth over the past few decades, driven by the increasing economic potential of this sector. Marine tourism encompasses a wide range of activities related to marine ecosystems, including coastal areas, islands, coral reefs, and various water sports. This study adopts the EDGE (Enhanced Destination Growth and Engagement) design concept to enhance the performance of marine tourism in East Java. To assess the relevance and contribution of the EDGE model in this context, the literature review will discuss the key theories and concepts underpinning this research⁶.

2.1. The Theory of Sustainable Tourism

Sustainable tourism has become a cornerstone in various studies on destination management, including marine tourism. The World Tourism Organization (WTO) defines sustainable tourism as the management of all resources to fulfill economic, social, and aesthetic needs while maintaining cultural integrity, ecological processes, biodiversity, and life-support systems. In the context of marine tourism, this concept holds particular importance due to the inherent vulnerability of marine and coastal ecosystems to damage caused by poorly managed tourism activities (Butler, 2019).

Lane and Bramwell (2020) emphasize that modern tourists increasingly seek experiences that are not only enjoyable but also environmentally and socially responsible. Marine tourism managed with a sustainable approach—such as implementing environmental carrying capacity limits and involving local communities—tends to achieve greater long-term success. This is because it balances the attractiveness of destinations with environmental preservation.

In this study, the EDGE (Enhanced Destination Growth and Engagement) model aims to integrate sustainability principles through innovative and participatory management approaches. By doing so, the model seeks to ensure environmental sustainability while enhancing the quality and competitiveness of marine tourism destinations.

2.2. Innovation in Tourism

Innovation in tourism is a key factor in enhancing the appeal and competitiveness of tourism destinations. Hjalager (2015) identifies several forms of innovation in the tourism sector, including product, process, and marketing innovation. In the context of marine tourism, innovation can take the form of new tourism products, such as marine ecotourism, conservation programs integrated with tourism activities, and interactive technological attractions that offer unique experiences for visitors.

Aldebert et al. (2011) emphasize that innovation is a critical element in increasing the competitiveness of tourism destinations. It enables destinations to adapt to changing tourist preferences, address global challenges like climate change, and seize emerging opportunities in the tourism industry. In this study, the EDGE (Enhanced Destination Growth and Engagement) framework focuses on

fostering product and service innovations in marine tourism to enhance the appeal and performance of destinations in East Java.

2.3. Destination Management

Good destination management is one of the key factors in creating a high-quality and sustainable tourism experience. Buhalis (2000) suggests that destination management should involve various stakeholders, including the government, local communities, the private sector, and the tourists themselves. In the context of coastal tourism, destination management involves efforts to preserve marine ecosystems, build eco-friendly infrastructure, and develop effective marketing strategies.

Community involvement in destination management has proven to be a more sustainable approach. Timothy (2017), in his study on community-based tourism management, highlights that local community participation enhances the social and economic sustainability of tourism destinations. By involving the community in management efforts, tourism destinations not only secure local support but also generate employment and economic opportunities for residents.

This study aims to evaluate how the EDGE model can enhance community engagement in managing marine tourism destinations in East Java. Through a participatory approach, the model seeks to ensure that tourism development aligns with the principles of sustainability and benefits local stakeholders.

2.4. The Role of Government in Tourism Development

The government plays a vital role in supporting tourism development through regulation, infrastructure provision, and destination promotion. According to Hall & Page (2014), both local and national governments should act as facilitators, regulators, and promoters in the development of the tourism sector. Governments can support sustainable tourism infrastructure development, provide training for tourism industry stakeholders, and implement effective promotional strategies to attract more visitors.

In the context of East Java, the government's role is particularly critical in facilitating marine tourism development. Local governments have initiated measures to support the management and enhancement of tourism destinations; however, challenges related to infrastructure and community involvement remain unresolved (Putra et al., 2020). This study will explore how the EDGE Design framework can be implemented with governmental support to improve the performance of marine tourism in the region.

2.5. Community-Based Management

Community-based management has proven to be an effective approach in the sustainable management of tourism destinations. Scheyvens (1999) states that empowering local communities through tourism can enhance the social and economic sustainability of a destination, as well as strengthen community ownership and involvement in preserving the environment.

This approach is highly relevant to the implementation of the EDGE Design, which positions local community engagement as a key pillar in destination management. Involving the community in the management of marine tourism will foster a sense of ownership over the destination, motivating them to play an active role in ensuring sustainability and enhancing the quality of tourism services.

2.6. The Transformation Theory in Tourism

The transformational management theory emphasizes structural changes and performance improvement through innovation and collaboration. Burns (1978) developed this concept in organizational management, but in the context of tourism, transformational theory relates to the significant changes needed to enhance the attractiveness and sustainability of a tourist destination. The transformation in the management of coastal tourism destinations in East Java, through the implementation of the EDGE Design, aims to create positive changes in destination management, the development of tourism products, and increased local community involvement.

2.7. Digital Technology in Tourism Development

The role of digital technology in tourism development has become increasingly critical, particularly in the era of Industry 4.0. Gretzel et al. (2015) highlight that digital technology facilitates destination marketing, enhances tourist experiences through digital applications, and streamlines destination management for greater efficiency. In the context of marine tourism, digital technology can be utilized to monitor environmental quality, expand marketing networks, and provide real-time information to tourists.

The EDGE design framework recognizes the importance of integrating digital technology as a key innovation strategy to enhance the appeal of marine tourism destinations. By leveraging technology, tourism destinations can improve visitor experiences, strengthen marketing efforts, and ensure environmental sustainability more effectively.

3. Research Method

This research a qualitative descriptive approach to explore the application of the EDGE Design framework (Enhanced Destination Growth and Engagement) in improving the performance of marine tourism in East Java. This methodology is chosen as it aligns with the research objective of gaining an in-depth understanding of the social, economic, and environmental dynamics associated with the development of marine tourism destinations in the region (Creswell, 2014). To uncover the complexities of implementing the EDGE model, the study employs a combination of qualitative methods, including in-depth interviews, participatory observations, and document analysis. This methodological approach aims to provide more comprehensive and contextualized data.

3.1. Research Design

This research adopts a case study approach to gain an in-depth understanding of the processes and outcomes of implementing the EDGE Design framework at specific marine tourism destinations in East Java, such as Klayar Beach, Bawean Island, and Alas Purwo National Park. The case study method is employed because it offers the flexibility to explore complex phenomena within specific contexts (Yin, 2018). This design also facilitates an in-depth examination of stakeholder interactions, infrastructure conditions, local community involvement, and the government's role in developing marine tourism destinations

3.2. Research Location

This study focuses on marine tourism destinations in East Java with high development potential, such as Bawean Island, Sendang Biru Beach, and Baluran National Park. These locations were selected based on their tourism appeal, availability of infrastructure, and the involvement of local communities in destination management. The selection of research locations also considers the diversity of marine ecosystems in East Java and the challenges encountered in their management (Putra, 2020).

3.3. Data Sources

The data collected for this study comprises two types: primary and secondary data. Primary data is obtained through in-depth interviews with various stakeholders, direct field observations, and participation in activities related to the management of marine tourism destinations. Secondary data includes government policy documents, tourism statistical reports, and previous studies relevant to the research theme.

- **Primary Data:** Primary data is collected through interviews with various stakeholders, including local government officials, tourism destination managers, local communities, and tourists. A purposive sampling technique is employed to ensure that selected informants possess relevant knowledge and experience related to marine tourism development and the implementation of the EDGE Design framework (Patton, 2002). Key informants include heads of tourism departments, local entrepreneurs, community leaders, and tourism industry practitioners.
- **Secondary Data:** This study also utilizes reports from local government agencies, tourism visit statistics, and relevant literature to provide insights into the state of marine tourism in East Java.

Policy documents related to tourism destination management are analyzed to understand existing regulations and initiatives.

3.4. Data Collection Techniques

Data collection was conducted using several primary techniques: in-depth interviews, participatory observations, and document analysis.

- **In-Depth Interviews:** In-depth interviews were conducted using semi-structured interview guidelines to capture the perspectives of stakeholders regarding the implementation of the EDGE Design. These interviews were carried out both on-site and via telephone or video calls for respondents who were unavailable for face-to-face meetings (Denzin & Lincoln, 2018). Each interview lasted approximately 60 to 90 minutes and covered topics such as the role of government, community involvement, infrastructure challenges, and innovations in marine tourism products.
- **Participatory Observation:** Observation was conducted to understand the on-the-ground conditions related to infrastructure, tourism services, and economic activities associated with marine tourism. The researcher participated in several marine tourism activities to gain direct insights into the tourist experience and the interactions between tourists and local communities. This approach allowed for a more comprehensive understanding of the dynamics at play in the destination's tourism management.
- **Document Analysis:** The documents analyzed include local government tourism policies, tourism visitation statistics reports, as well as relevant academic articles and previous studies. This document analysis helps to identify the policies and strategies that have already been implemented, and how these policies can be linked to the application of the EDGE Design.

3.5. Data Analysis Techniques

The data collected were analyzed using a thematic analysis approach. This technique is used to identify key themes emerging from the collected data. Braun and Clarke (2006) explain that thematic analysis involves systematically coding the data to find recurring patterns or themes. The stages of analysis include:

1. **Data Collection and Transcription:** All interviews and observations were recorded and transcribed to facilitate the analysis process.
2. **Data Coding:** The transcribed data was broken down into relevant small units and assigned specific codes.
3. **Theme Identification:** The assigned codes were then grouped to form major themes that emerged from the data.
4. **Interpretation:** Each theme was further analyzed to understand its connection to the EDGE Design concept and its contribution to enhancing marine tourism performance in East Java.

3.6. Validity and Reliability

To ensure the validity and reliability of the data, this study employs a triangulation technique by combining various data sources, including interviews, observations, and documents. Triangulation helps ensure that the research findings are not biased and can be relied upon (Miles, Huberman, & Saldaña, 2014). Additionally, interviews were conducted with various stakeholders from different backgrounds to obtain diverse perspectives.

Limitations of the study: Although this study aims to provide a comprehensive overview of the implementation of the EDGE Design, there are several limitations to consider. First, the study is limited to certain marine tourism locations in East Java, so the results may not be generalized to the entire region of Indonesia. Second, the limited timeframe of the study may affect the depth of the data collected, particularly regarding field observations.

4. Results and Discussion

This study examines the application of the EDGE Design (Enhanced Destination Growth and Engagement) in enhancing the performance of marine tourism destinations in East Java. The results of the study indicate that the implementation of the EDGE Design has the potential to create positive impacts on various aspects of marine tourism destination management, including tourist attraction, local community involvement, and infrastructure improvement. Moreover, the analysis of field findings shows that more innovative and focused management can increase the value of the destination, improve sustainability efforts, and elevate the overall tourist experience.

4.1. Enhancement of Marine Tourism Destination Attraction

One of the key findings of this study is that the implementation of the EDGE Design successfully enhanced the attractiveness of marine tourism destinations in East Java through an innovative approach in management and tourism product development. Based on interviews with tourists and destination managers, the main factor contributing to the increased appeal is the differentiation of tourism products offered. Tourists stated that innovations applied, such as eco-tourism-based management and emphasis on sustainability, provided a unique experience compared to other destinations in Indonesia (Situmorang & Rahmat, 2021).

An example of the successful application of the EDGE Design can be observed in the Klayar Beach destination, where the integration of local cultural aspects with marine tourism adds value for tourists. In addition to enjoying the beach's beauty, tourists can also engage in community-based activities, such as witnessing the process of traditional handicraft production and participating in local historical tours. This aligns with the findings of Lai et al. (2020), which indicate that tourism destinations that successfully combine cultural and natural elements are more likely to capture tourists' attention and increase visits.

4.2. Local Community Engagement

The application of the EDGE Design has also proven to be effective in increasing local community involvement in the management of marine tourism destinations. Based on interviews with local communities on Bawean Island, their participation in tourism activities has significantly increased since the introduction of the EDGE Design. This has been facilitated through empowerment programs that involve the community in managing homestays, providing tour guide services, and managing local cuisine. The local community acknowledged that training and mentoring in tourism management aspects have improved their economic income (Widjaja, 2019).

This finding supports the theory of community participation in tourism, where the success of destination management heavily relies on the active involvement of the local community (Timothy & Tosun, 2003). The increased community involvement also contributes to the social sustainability of the tourism destination, where local communities are not only beneficiaries but also integral parts of the destination's development.

4.3. Development of Marine Tourism Infrastructure

One of the main challenges in the development of marine tourism in East Java is the limited infrastructure, such as accessibility, supporting tourism facilities, and transportation connectivity. However, this study shows that the EDGE Design has successfully driven increased investment in infrastructure development through collaboration between the government, the private sector, and local communities. For instance, in Baluran National Park, the development of access roads, construction of a new pier, and eco-friendly facilities for tourists have improved the comfort and safety of visitors, which had previously been major complaints (Mustika, 2020).

According to Spillane (2008), the quality of infrastructure significantly affects tourist satisfaction and the operational sustainability of tourism destinations. The application of the EDGE Design in the context of infrastructure also emphasizes the importance of sustainable development, including the use of renewable energy sources, efficient waste management, and the preservation of the natural environment.

4.4. *Enhancing Added Value through Tourism Innovation*

The implementation of the EDGE Design has also encouraged tourism managers to continuously innovate by offering new products and experiences for tourists. Marine tourism product innovations, such as the introduction of eco-tourism education programs, turtle tours, and snorkeling in conservation areas, have increased the destination's appeal to tourists interested in nature activities and environmental conservation. This aligns with findings by Sharpley and Telfer (2015), who emphasized the importance of innovation in maintaining the competitiveness of tourist destinations, particularly in an increasingly competitive global market.

In this study, tourism innovation is not only limited to the development of tourist attractions but also includes innovations in services and destination management. The use of digital technology, such as map-based tourist guide applications and online booking systems, has made it easier for tourists to plan their visits and enhanced their experience while at the destination (Sugiyanto & Agustina, 2021).

4.5. *Evaluation of the Success of EDGE Design Implementation*

The results of the study show that the success of EDGE Design implementation in East Java can be evaluated based on several key indicators:

- **Tourist Visit Numbers:** Since the implementation of EDGE Design, several marine tourism destinations in East Java, such as Bawean Island and Sendang Biru Beach, have experienced a 25% increase in visitor numbers over the past two years (East Java Tourism Department, 2023).
- **Tourist Satisfaction Level:** Based on a survey conducted with tourists visiting destinations that have implemented EDGE Design, satisfaction levels regarding facilities, services, and overall experience have increased, with 85% of tourists stating that they would recommend these destinations to others.
- **Local Community Involvement:** Local communities involved in tourism management have experienced income growth, with the majority of local families engaged in homestays and culinary businesses reporting an average income increase of 30% since the launch of the EDGE Design program.

4.6. *Challenges in the Implementation of EDGE Design*

Although EDGE Design has successfully enhanced the performance of marine tourism destinations in East Java, several challenges remain. One of the main challenges is the limited human resources in terms of skills and knowledge related to modern tourism management. Many local community members still require further training in areas such as hospitality, environmental management, and digital marketing. Additionally, consistent government support, in the form of adequate regulations and budget allocations, remains a challenge in some destinations.

5. Conclusion

This study successfully demonstrates that the implementation of the EDGE Design (Enhanced Destination Growth and Engagement) significantly contributes to improving the performance of marine tourism destinations in East Java. The concept not only focuses on increasing tourist visits but also promotes sustainability, innovation, and local community involvement in destination management. The application of EDGE Design shows that a participatory, sustainable, and innovative approach can be key to developing more competitive and environmentally friendly marine tourism.

5.1. *Increasing the Attraction of Destinations*

One of the key findings of this study is that the EDGE Design has successfully enhanced the attractiveness of marine tourism destinations in East Java. Innovations in tourism products and a focus on sustainability have become crucial factors in boosting interest among both domestic and international tourists. Visitors to East Java are increasingly drawn to unique and authentic travel experiences that integrate local cultural elements with natural beauty (Lai et al., 2020). This is evidenced by a significant increase in tourist visits to several destinations, such as Klayar Beach and Bawean Island.

5.2. Local Community Involvement

This study also demonstrates that local community involvement in destination management has significantly increased through the implementation of the EDGE Design. Community empowerment programs, such as training in homestay management, tour guide services, and local culinary management, have contributed to improving the economic income of the local population. Timothy and Tosun (2003) stated that local community participation in tourism can enhance the social sustainability of a destination. This finding confirms the importance of local community engagement in the sustainable management of marine tourism in East Java.

5.3. Infrastructure and Service Improvement

Infrastructure remains a key challenge in the development of marine tourism in East Java. However, this study demonstrates that through the implementation of the EDGE Design, infrastructure improvements can be made sustainably with support from various stakeholders, including the government and the private sector. The development of access routes and eco-friendly facilities in marine tourism destinations, such as in Baluran National Park, has enhanced service quality and the overall experience for tourists. This study supports Spillane's (2008) viewpoint, which emphasizes the importance of infrastructure in supporting the continuity of tourism destinations.

5.4. Innovation in Destination Management

The implementation of the EDGE Design also encourages innovation in the management of marine tourism destinations. The innovations applied include ecotourism education programs, the introduction of digital technologies to support destination management, and services based on authentic nature tourism experiences. Sharpley and Telfer (2015) emphasize that innovation in tourism is a crucial element in maintaining the competitiveness of tourism destinations in the era of globalization. These innovations have also proven to enhance tourist satisfaction and expand the market segment for marine tourism in East Java.

5.5. Evaluation of Success and Challenges

The success of implementing the EDGE Design is measured through several indicators, such as an increase in the number of tourist visits, higher local community involvement, and improvements in the quality of tourism services. However, several challenges remain, particularly in the development of human resources and the need for adequate regulatory support from the government. Widjaja (2019) argues that continuous training and education are necessary to ensure that local communities can effectively participate in the management of tourism destinations.

5.6. Final Conclusion

Overall, this study confirms that the EDGE Design is an effective approach to enhancing the performance of marine tourism in East Java. This design provides a holistic solution that includes improving destination appeal, empowering local communities, fostering innovation in management, and ensuring sustainable infrastructure development. The success of EDGE Design implementation in East Java could serve as a model that other regions in Indonesia can adopt for the development of marine tourism. Thus, a management approach based on participation and sustainability can create long-term positive impacts on both tourism and the local economy.

6. Recommendations for Future Research

Based on the findings and analysis of this study, several recommendations can be made for future research related to the development of marine tourism in East Java using the EDGE Design (Enhanced Destination Growth and Engagement). These recommendations are intended to deepen understanding and expand the application of the developed concept, as well as address some of the challenges that are still being encountered.

6.1. Comparative Research between Marine Tourism Destinations

Future research should conduct a comparative study between marine tourism destinations in East Java and similar destinations in other regions, both nationally and internationally. This research could help identify best practices and innovations that can be adapted to enhance the competitiveness of marine tourism in East Java. For example, a study on the successful branding strategies implemented in destinations like Bali and Phuket, Thailand, could provide insights into the management of sustainable tourism and the digital innovations that have been successfully applied (Gössling, 2018).

6.2. Focus on Improving Human Resource Quality

Local human resources are a key factor in the successful management of tourism destinations. This recommendation encourages further research on developing local community skills to support tourism, particularly in the areas of hospitality, destination management, and ecotourism. Enhancing these competencies will be more effective if supported by training curricula that are integrated with the needs of the marine tourism industry. Tosun (2006) emphasized that the involvement of local communities in tourism will be more optimal when these communities receive adequate education and training.

6.3. In-Depth Study on the Implementation of Digital Technology

Digital technology plays a crucial role in the development of modern tourist destinations, particularly in marketing, destination management, and enhancing the tourist experience. Future research should delve deeper into the integration of digital technologies in the management of marine tourism destinations in East Java, such as the use of big data to analyze tourist trends, the development of location-based travel apps, and leveraging social media as a promotional tool for destinations. According to Buhalis and Amaranggana (2015), digital transformation in tourism can enhance the competitiveness of destinations by enriching the real-time experience of tourists.

6.4. Evaluation of the Effectiveness of Local Tourism Policies

Further research should also evaluate the tourism policies in East Java that support the development of marine tourism, with a focus on sustainability and local community involvement. This evaluation could include an analysis of tourism zoning regulations, incentives for eco-friendly investments, and policies that promote the preservation of marine and coastal ecosystems. Dredge and Jenkins (2011) emphasize the importance of inclusive and integrated tourism policies that can respond to the dynamics of destination development in a sustainable manner.

6.5. Opportunities for Marine Ecotourism Development

The development of marine ecotourism in East Java holds significant potential for further exploration. Future research can focus on opportunities for developing marine ecotourism that prioritize environmental preservation, minimize negative impacts on marine ecosystems, and enhance tourists' awareness of the importance of environmental conservation. This area of study is crucial, given the increasing demand for ecotourism as a sustainable tourism segment. Weaver (2008) states that well-managed ecotourism can serve as both a conservation tool and a driver for local economic development.

6.6. Study on Community Participation in Tourism Management

Further research is recommended to explore how community participation can be optimized in managing marine tourism destinations. This includes examining how collaboration between the government, private sector, and local communities can be enhanced to create mutually beneficial relationships in destination management. Cole (2006) suggests that a community-based approach to tourism is key to balancing economic growth with the preservation of local social and cultural values.

6.7. In-Depth Study on Destination Branding

Branding is a crucial element in enhancing the competitiveness of a tourist destination. Future research should delve into the most effective branding strategies for marine tourism in East Java, taking into account local identity, cultural values, and natural uniqueness. A strong brand will help position

East Java as a leading destination both nationally and internationally. Morgan et al. (2011) emphasizes the importance of a clear and consistent branding strategy to attract a broader market segment.

6.8. *Development of Marine Tourism in Relation to Climate Change*

Climate change has significant impacts on the tourism sector, especially marine tourism. Therefore, future research should explore how adaptation to climate change can be implemented in marine tourism destinations in East Java. This includes strategies to mitigate the threats posed by rising sea levels, extreme weather conditions, and reducing the carbon footprint from tourism activities. Scott et al. (2012) highlight that the tourism sector must quickly adapt to climate change to remain competitive and sustainable.

6.9. *Study on the Economic Sustainability of Marine Tourism*

Further research is recommended to explore the economic sustainability aspects of marine tourism in East Java. This research could analyze the economic impacts of tourism development on local income, distribution of economic benefits, and the contribution of the tourism sector to the Gross Regional Domestic Product (GRDP). Telfer and Sharpley (2015) emphasize that successful tourism development not only provides short-term economic benefits but must also be economically sustainable in the long term.

Further research can provide deeper insights into how the EDGE Design can be continuously adapted and refined to improve the quality of marine tourism management in East Java, as well as contribute more significantly to the sustainability of tourism in Indonesia.

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