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IMPROVING THE WELFARE OF LOCAL COMMUNITIES THROUGH THE RESILIENCE OF MARINE ECOTOURISM MSMES IN THE LIKUPANG SPECIAL ECONOMIC ZONE (SEZ), NORTH MINAHASA REGENCY

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ABSTRACT
Marine ecotourism has the potential to enhance local community well-being, but crises such as the COVID-19 pandemic have tested the sustainability of these benefits, particularly for Micro, Small, and Medium Enterprises (MSMEs). This study analyses the relationship between the development of marine ecotourism in the Likupang Special Economic Zone and the socio-economic well-being of local communities, with MSME resilience as a mediating variable. Cross-sectional survey data (n = 240) were analysed using Partial Least Squares–Structural Equation Modeling (PLS-SEM). The results show that marine ecotourism in Likupang contributes positively to local community well-being. The tourism–marine economic and socio-cultural marine economic dimensions have a significant direct effect on well-being, whereas the environmental marine economic dimension does not directly improve well-being without operating through enhanced MSME resilience. All dimensions of marine ecotourism significantly strengthen the resilience of local MSMEs, which in turn drives improvements in community well-being. In other words, MSME resilience partially mediates the relationship between marine ecotourism and community well-being for economic and socio-cultural effects, and fully mediates this relationship for environmental effects. These findings confirm that the resilience of local MSMEs is a key factor that bridges the economic and environmental potential of ecotourism and its translation into tangible well-being for communities. In practical terms, sustainable tourism development strategies need to be accompanied by empowerment programmes and resilience-strengthening initiatives for MSMEs so that the benefits of marine ecotourism can be optimally experienced by local communities.

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INTRODUCTIONS

Tourism is a vital sector that can generate billions of dollars of foreign exchange and create millions of jobs around the world. In particular, sustainable tourism, including marine ecotourism, has the potential to become an important economic resource for regional development if planned synergistically (Pramana et al., 2022). Research shows that tourism can drive economic growth while improving the welfare and quality of life of local communities (Yuli et al., 2023).

Indonesia is an archipelagic country that has the longest coastline in the world reaching 99,093 Km. The length of Indonesia's coastline is its own advantage in the field of Tourism, in addition to the advantages of its natural wealth in the form of beautiful coastal landscapes, marine biodiversity, and local wisdom of coastal communities. In 2019, tourism accounted for around 4.8% of national GDP and was projected to be the largest foreign exchange contributor to Indonesia in 2020 (Pramana et al., 2022).

Likupang was designated as a Tourism Special Economic Zone (SEZ) through Government Regulation No. 84 of 2019, covering an area of 197.4 hectares (Prasetyadi, 2023). The government targets the Likupang SEZ to attract investments of up to Rp5 trillion by 2040, build facilities such as marinas, resorts, and conservation centers, and create around 65,300 new jobs for the local community (Prasetyadi, 2023).

However, the COVID-19 pandemic that has spread since the beginning of 2020 has provided a severe shock to the tourism industry, including in Indonesia which experienced a national economic contraction of 2.1%, companies stopped their operations by 14.1% and reduced their employees by 11.6%, and decreased hotel occupancy rates from 56.73% to 28.07% (BPS-Indonesia Statistics Agency, 2021). Travel restrictions and the closure of tourist destinations have caused the number of tourist visits to plummet drastically. Foreign tourist visits to Indonesia decreased by more than 75% in 2020 compared to the previous year and continued in 2021 to only 1,557,530 people, down 61.57% compared to 2020 (BPS-Indonesia Statistics Agency, 2021). The decline in tourism activity has also hit the segment of society whose livelihoods depend on this sector (especially informal workers). MSME business actors play a strategic role as tourism service providers, producers of local products (souvenirs, culinary, etc.), and absorbers of labor at the local level (Kawulur et al., 2021), where 95% of these business units are classified as small-medium enterprises. However, the COVID-19 crisis has hit tourism MSMEs hard: many small businesses have been forced to close temporarily or permanently, revenues have plummeted, and the ability to survive has been tested. MSME resilience refers to the capacity of business to adapt and recover to external shocks (Baghel, 2022).

Conceptually, resilience includes the ability of MSMEs to endure, absorb, adapt, transform, and bounce back from the adverse effects of the crisis in a relatively short period of time (Cantó et al., 2022). Strong tourism MSMEs will try various strategies to survive, for example by innovating to change products/services, adopting digital marketing, penetrating the local market, or collaborating in the creative economy community (Chan & Asni, 2022). Studies during the pandemic found that the tourism community in Indonesia began to adopt innovative measures such as digital transformation, the establishment of collaborative networks, the implementation of strict health protocols, business diversification through the creative economy, and partnerships with the public/private sector as an effort to adapt to the decline in tourists (Sari et al., 2022). These adaptive measures show how important resilience is for the sustainability of local people's livelihoods in the midst of a crisis.

Marine ecotourism has the potential to improve the socio-economic welfare of the community by opening up business and employment opportunities (Phelan et al., 2020), but the positive impact will be optimal only if MSME actors are able to survive and adapt when facing changes in extreme conditions, such as the pandemic (Thukral, 2021). In other words, the resilience of MSMEs is suspected to play a crucial mediation role in keeping the economic benefits of tourism flowing to local communities, even in times of crisis (Rosyidiana & Narsa, 2024). This conceptualization

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is in line with the framework of thinking about tourism resilience, where the resilience of local business actors is one of the pillars of the resilience of tourist destinations as a whole (Badoc-Gonzales et al., 2022).

The research gap identified is the lack of studies that empirically examine the relationship between ecotourism, MSME resilience, and the welfare of local communities, especially in the context of a pandemic. Most previous research on tourism during COVID-19 has focused on macroeconomic or national-scale impacts, as well as management strategies at the national policy level (Rosyidiana & Narsa, 2024), (Almeida et al., 2022), (Cantó et al., 2022), (Samdin et al., 2022), (Somchuea et al., 2022), (Sun et al., 2022). In-depth studies on experience and resilience strategies at the local community level are still limited, especially for relatively newly developed destinations such as Likupang. There is no certainty whether the tourism development model in Likupang during the pandemic has succeeded in involving and protecting the welfare of local communities through strengthening MSMEs.

Academically, this research will contribute by filling the literature gap related to the role of MSME resilience mediators in the context of sustainable tourism in times of crisis. Several recent studies also emphasize that strengthening community participation and resilience in tourism is key to future-proofing the tourism industry in the face of various crises in the future (Rushton et al., 2024), (Chen & Li, 2024), (Tähtinen & Toivonen, 2025), (Prayag et al., 2024). Therefore, the focus of this research is in line with the agenda of sustainable and resilient tourism development, especially in the context of post-pandemic Indonesia.

With this background, this study aims to empirically analyze the relationship between the development of marine ecotourism, which consists of ecotourism economics/tourim marine economics (TME), ecotourism socio-culture marine economy (SCME), environmental marine economics (EME) to the socio-economic welfare of local communities / Local community welfare (LCW) in Likupang, by placing the resilience of MSMEs (LSR) as a mediator variable. Through this approach, it is hoped that a comprehensive understanding of the phenomena that occur in Likupang will be obtained, as well as data-based recommendations to improve the welfare of local communities through a resilient and sustainable tourism model in the future.

LITERATURE REVIEW AND HYPOTHESIS

Marine Ecotourism (TME) Economy and Local MSME Resilience (LSR)

The marine tourism sector is seen as an engine of economic growth for coastal communities, because it can open markets and income opportunities for local MSMEs (Upadhaya et al., 2022). Research shows that most economic activities in rural tourist destinations are driven by local micro-small businesses (Badoc-Gonzales et al., 2022). With tourist visits, local businesses (such as homestays, food stalls, boat rentals) get direct economic benefits, so that the financial base of the business becomes stronger and contributes to financial resilience in the face of business shocks (Ragoobur et al., 2023).

From a social perspective, the involvement of local communities in ecotourism has also strengthened the resilience of MSMEs. Marine ecotourism is generally community-based, meaning that local people are involved in tourism management and services (e.g. through tourism awareness groups/Pokdarwis). This participation builds *social capital* in the form of networks, trust, and mutual cooperation norms between business actors (Khakhim et al., 2021). Strong social capital has been shown to improve adaptability when faced with crises, as it has been reported that social networks and communal values in the tourism community influence business owners' decisions in overcoming difficult times (Dahles & Prabawa, 2020). With community support, MSMEs are easier to collaborate, share information, and innovate to survive. For example, during the Covid-19 pandemic, many tourism MSME players switched to selling products online or collaborating to market local tour packages (Zulkarnaen et al., 2021), (Gössling et al., 2020). This is possible thanks to the cooperation and solidarity of the community that has been built through ecotourism.

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In addition, the environmental aspect in ecotourism plays an indirect role in supporting the resilience of MSMEs. Marine ecotourism promotes sustainable coastal environmental management, such as coral reef protection, mangroves, reducing the effects of greenhouse gases and coastal cleanliness (Harahab et al., 2021), (Khakhim et al., 2021), (Sondakh et al., 2024). A protected natural environment is an important asset for tourism MSMEs to operate in the long term. Conservation of natural resources ensures that tourist attractions remain and marine products are sustainable, so that MSMEs that depend on nature do not lose their livelihoods (Badoc-Gonzales et al., 2022). In Likupang itself, marine ecotourism is focused on coral reef conservation and marine culture, which is expected to sustainably support local businesses. Thus, the economic roles of ecotourism (TME), socio-cultural (SCME), and environmental (EME) support each other to increase the resilience or resilience of local MSMEs (LSRs). So the hypothesis developed is:

H1: TME has a positive effect on LSR.
H2: SCME has a positive effect on LSR.
H3: EME has a positive effect on LSR.

Marine Ecotourism (TME, SCME & EME) and Community Socio-Economic Welfare (LCW)

TME contributes to the socio-economic well-being of coastal communities (LCW) through various mechanisms. The development of ecotourism has been proven to increase local household income and create new jobs (Abukhalifeh & Wondirad, 2019). A study in Nepal found that ecotourism plays a role as a motor of the economic progress of communities that were previously difficult to develop (Upadhaya et al., 2022). These natural tourism activities are able to create new business opportunities (such as tour guides, accommodation providers, souvenir sellers) and encourage income redistribution to the lower communities (Upadhaya et al., 2022), increasing local income and employment opportunities (Pynanjung, 2018) and improving the living standards of coastal communities through local economic growth (Sausan et al., 2023).

SCME is able to encourage community empowerment. Local communities gain new knowledge (e.g. about tourism services, basic foreign languages, digital marketing) that is useful for their social development (Tomasi et al., 2020). In addition, interaction with tourists encourages the preservation of local culture and traditions, through the performance of cultural attractions (traditional dance, maritime local wisdom) as attractions so as to provide added value for tourism, and increase the pride and social cohesion of the local community (Butler et al., 2022). Other studies show that the presence of tourists interested in local culture motivates residents to preserve traditional practices and feel proud of the region's identity (Upadhaya et al., 2022). Overall, ecotourism can create more prosperous and empowered communities, both economically and socially (Kumar et al., 2023).

In the environmental aspect, EME provides long-term benefits for community welfare through better environmental quality. Studies show that ecotourism supports the conservation of natural resources and biodiversity, through funding marine forest patrols or coral reef rehabilitation (Heshmati et al., 2022). Another study noted that households involved in ecotourism activities tended to have a higher standard of living than those who did not, in part because they benefited from sustainable environments and community development programs (Heshmati et al., 2022). Findings in Bahoi Village, West Likupang, Indonesia prove that ecotourism plays a major role in improving the welfare of the local community, because the benefits are directly felt by residents through increasing income and the quality of the coastal environment (Manahampi et al., 2015). However, for communities that depend on tourism, the pandemic has had an impact on people's income and jobs. Therefore, the aspect of resilience is crucial: how the benefits of ecotourism can still be felt or recover quickly after the shock. In this context, the resilience of local MSMEs plays an important role as a support for the sustainability of community welfare. So the hypothesis developed is:

H4: TME has a positive effect on LCW.

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H5: SCME has a positive effect on LCW.
H6: EME has a positive effect on LCW.

MSME Resilience (LSR) and Local Community Welfare (LCW)

LSR can be interpreted as the capacity of micro-small businesses to survive, adapt, and recover from pressures (e.g. economic crises or pandemics). This resilience has direct implications for LCW (Viola & Fitrianto, 2022). Small-scale tourism businesses add value to the community by providing job opportunities, involving the community in business, and supporting other local businesses, so that the wheels of the local economy continue to spin (Scheyvens & van der Watt, 2021).

Resilient tourism MSMEs play a role as a catalyst for community development. Small businesses that keep going in difficult times often take on a role in helping the community, for example by retaining local employees, switching to selling basic necessities to residents, or engaging in social activities (Adekola & Clelland, 2020). The study found that despite the small business scale, local tourism business actors have a central role in encouraging economic empowerment, innovation, and social cohesion in tourist destinations (Badoc-Gonzales et al., 2022). Another study reported that many small-scale businesses were able to survive with product diversification and strategies based on local wisdom, so that local communities could get through times of crisis well because the strength of local culture and community networks proved to be a supporting factor for business resilience across generations (Utami, 2022). Tourism MSMEs that have successfully adapted during the pandemic, because they innovate virtual tourism services, digital marketing, or target local tourists have proven to be able to save jobs and income for the people who depend on them. (Firdaus et al., 2024). So the hypothesis built is:
H7: LSR has a positive effect on LCW.

The Role of MSME Resilience Mediation (LSR) in the Relationship of Marine Ecotourism (TME, SCME & EME) and Local Welfare (LCW)

Marine ecotourism (TME, SCME & EME) has the potential to improve the socio-economic well-being of local communities through various dimensions: economic (income and employment opportunities), socio-cultural (community empowerment and cultural preservation), and environment (sustainability of natural resources). These three dimensions are interconnected and form strong community resilience (E. Yang & Kim, 2022). Within the framework of sustainable tourism, local MSMEs play a central role as a driver of regional economic growth and improvement *resilience* Economic (resilience) (Purnomo & Purwandari, 2025). Marine ecotourism managed by involving local communities and MSMEs can strengthen the community's economic capital (through business opportunities and income), while encouraging social inclusivity and sustainable environmental practices (Purnomo & Purwandari, 2025). Thus, the resilience of MSMEs functions as a mediating variable that transmits the positive influence of marine ecotourism on community welfare. This means that indirect ecotourism improves welfare by first strengthening the resilience and sustainability of local MSMEs, which then produce *Outcome* welfare for the community.

The literature review-based research also emphasized the importance of tourism MSME resilience for the overall resilience of destinations. The study noted that MSMEs dominate the global tourism sector, so the resilience of these small businesses is a catalyst for post-crisis community recovery (Badoc-Gonzales et al., 2022). Empirical evidence shows that the resilience of small-scale tourism businesses during crises contributes to local development (Dahles & Susilowati, 2015) and helping communities *Rebound* Post-disaster (Mendoza et al., 2018). In fact, the resilience factor in cross-generational family businesses in the tourism sector has been proven to encourage local community empowerment and tourism sustainability (Ismail et al., 2019). Other studies show that the development of marine tourism as an alternative livelihood through local small-medium enterprises has succeeded in increasing

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income and household welfare levels (Bahukeling et al., 2019). Households involved in marine tourism SMEs were recorded to have significantly higher welfare indicators (based on 21 BKKBN criteria) than households that were not involved (Bahukeling et al., 2019). This emphasizes that marine ecotourism can improve community welfare indirectly by encouraging the growth of strong local MSMEs and can be realized if local MSMEs are able to seize these opportunities resiliently (Opod et al., 2024).

The sustainability of the welfare of the tourism community is highly dependent on the adaptive capacity of MSMEs to face external shocks. Resilience in this context is defined as the ability of a system to cope and survive under stress or disruption (Folke, 2016). Under normal conditions, marine ecotourism directly provides economic benefits (e.g., tourism income, employment) to the community. However, in the *Disruption* like the COVID-19 pandemic, the direct benefit path was drastically cut off. The COVID-19 pandemic in 2020 stopped the flow of tourists and hampered investment in destinations such as the Likupang SEZ, so that the local economy was seriously affected (Opod et al., 2024). It is in this context that the role of MSME resilience mediation becomes very real. Local MSMEs that are able to adapt, for example switching to digital marketing, changing products/services, or finding alternative markets and acting as a buffer for the community's economy (Anggun, 2023). The high resilience of MSMEs has been proven to play a role as a cushion for the economy during times of crisis, because MSMEs are able to survive during periods of stress and bounce back quickly post-crisis (Firmansyah et al., 2023). Thus, the hypothesis of an indirect relationship through MSME Resilience is:

H8: TME has a positive effect on LCW through LSR mediation.
H9: SCME has a positive effect on LCW through LSR mediation.
H10: EME has a positive effect on LCW through LSR mediation.

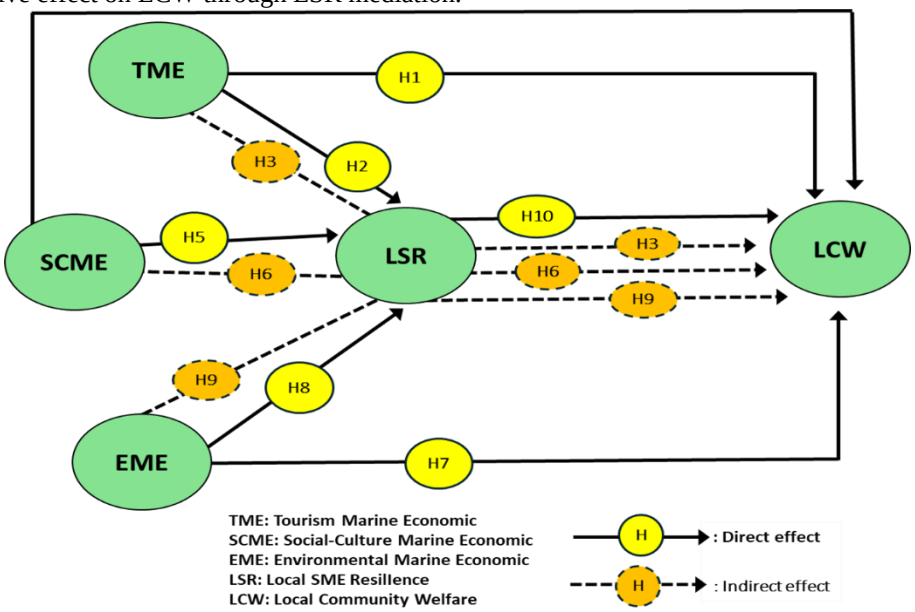

Fig.1. Conseptual Framework.

METHOD

This study uses a quantitative approach with a survey method to explain the causal relationship between the variables studied. The type of research adopted is explanatory research because it aims to test the hypothesis about the

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influence of Marine Ecotourism on the Socio-Economic Welfare of Local Communities with MSME Resilience as a mediator variable. The survey design was carried out in a cross-sectional manner, which is appropriate to capture the conditions and perceptions of respondents regarding ecotourism, MSMEs, and welfare during the pandemic.

The research was carried out in the Likupang Tourism Special Economic Zone (SEZ), North Sulawesi Province, Indonesia. This area was chosen because it is known for its marine ecotourism potential and is designated as a national super priority destination. The research population includes local people living around the Likupang marine ecotourism destination as well as local MSME actors engaged in marine tourism-related sectors. Thus, the target population includes individuals (analysis units) who feel the economic and social impact of the development of marine ecotourism in Likupang, both as residents and as micro-small-medium enterprises (MSMEs).

Sampling was carried out by purposive sampling method. The criteria for selecting respondents were set to ensure that respondents had relevant knowledge or experience: (1) local residents of Likupang who know the development of local ecotourism, or (2) owners/managers of MSMEs in the tourism sector or the supporting sector of Likupang marine tourism during the pandemic. The number of samples was 240 respondents. This number is considered adequate considering the rule of 10 times the number of parameters in the PLS-SEM model, namely the sample size should be at least 10 times the number of indicators or the most difficult path in the structural model (Hair et al., 2021).

The instrument used was a closed questionnaire. Each research variable was measured through a series of statements (items) that respondents had to answer using a 5-level Likert scale, where respondents were asked to state their level of agreement with each statement. The questionnaire was divided into several main parts according to the variables studied: (1) marine ecotourism section, (2) MSME resilience section, and (3) socio-economic welfare section. Question items are organized based on operational indicators from the relevant literature.

Data collection was carried out by a research team and field assistants who had been briefed. Respondents were contacted and explained the purpose of the research, then asked to be willing to fill out a questionnaire. Filling out the questionnaire takes about 15–20 minutes. To increase the response rate, the researcher approached local community leaders and the heads of local MSME associations to help the questionnaire distribution process. After collecting, the questionnaire is checked for completeness; Incomplete or inconsistent data are eliminated from the analysis. In the end, the final data was obtained according to the number of target samples (240 complete questionnaires) that were ready for analysis.

The operationalization of variables is carried out by defining concepts in a measurable manner into specific indicators. Each latent variable in the model has several indicators that are measured through questionnaire items.

The collected data was analyzed using the Partial Least Squares – Structural Equation Modeling (PLS-SEM) technique. The software tool used is SmartPLS ver. 4.1. PLS-SEM was chosen because it is suitable for predictive and exploratory research models, can handle small sample sizes, and is able to test complex structural models with mediator variables (Hair et al., 2021). The PLS-SEM analysis is carried out in two main stages, namely the evaluation of the measurement model (outer model) and the evaluation of the structural model (inner model).

Evaluation of the Outer Model – At this stage, the quality of the indicators that measure each construct is tested. Given that the entire construct is examined as a reflective latent variable, the evaluation of the outer model includes:

1. Reliability indicator: Judging from the value of the loading factor of each indicator to its construction. A loading factor of > 0.70 is considered to meet the requirements of good indicator reliability.
2. Internal construct reliability: Viewed through Cronbach's Alpha and Composite Reliability (CR) values for each latent variable. The criteria used were Cronbach's Alpha ≥ 0.70 and CR ≥ 0.70 indicating satisfactory internal reliability.

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3. Convergent validity: Evaluated through the Average Variance Extracted (AVE) on each construct. The AVE criterion ≥ 0.50 is used, which means that the construct is able to explain more than half of the variance of the indicators.
4. Discriminant validity: Shows the extent to which a construct is unique and different from other constructs. There are two main ways to test the validity of a discriminator. First, with the Fornell-Larcker criterion, where the square root of AVE of each construct is required to be greater than the correlation of the construct with other constructs in the model. Second, using the Heterotrait-Monotrait Ratio (HTMT), which is comparing the average correlation between indicators of different constructs with the average correlation of indicators in one construct. HTMT < 0.85 is considered to indicate adequate discriminant validity.

After ensuring that the measurement model is eligible, the analysis is continued to the structural model (Inner Model Evaluation), which is testing the hypothesis of the relationship between latent variables. The steps of the internal evaluation of the model include:

1. Model prediction quality: Expressed by the R-squared value (R^2) for the endogenous variable. R^2 indicates the proportion of variance of endogenous variables (Y, also mediator Z if calculated) that can be explained by the exogenous variables in the model. In general, an R^2 value of about 0.75 is categorized as substantial, around 0.50 moderate, and around 0.25 weak.
2. Significance and path coefficients: Significance testing was carried out on the coefficients of relationships between constructs in a structural model, namely: the direct influence of exogenous variables on endogenous ones. In addition, the indirect effect (mediated effect) of exogenous variables on endogenous mediated variables was also tested. The significance estimation technique used is bootstrapping getting a t-statistic value for each path coefficient. Decision criteria used: t-statistic > 1.96 indicates a significant coefficient at a significance level of 5%. In other words, *a p-value* < 0.05 is considered statistically significant.
3. Goodness of Fit: Standardized Root Mean Square Residual (SRMR) test as an overall model fit index. SRMR ≤ 0.08 is used as a cut-off for model fit or whether the estimated structural model has adequate accuracy with the data.

RESULT AND DISCUSSION

escription of Likupang Tourism Special Economic Zone (SEZ)

Likupang is one of the areas in North Minahasa, North Sulawesi. The white coastline overlooking the Sulawesi Sea, savannahs, and Wallace's distinctive biodiversity represent a glimpse of paradise at the tip of the Sulawesi Island. The Likupang area was designated as a Special Economic Zone through Government Regulation Number 84 of 2019. The Likupang SEZ has advantages in the resort-themed tourism sector and cultural tourism which is supported by various beauties offered by the beach and the Wallace Conservation Center. Not only, this area is also designated as one of the Super Priority Tourist Destinations in Indonesia.

Available accommodation is Paradise Hotel, Golf & Resort formerly Casabaio Paradise. This hotel provides a wide range of facilities and services to rest comfortably. Besides that, there is also cheap and festive accommodation in the form of homestays managed by the local community and currently there are 68 residences. By staying at this homestay, visitors mingle and get to know the life of the local community in Marinsow Tourism Village, East Likupang District. The existence of innovations in the development of the potential of the Marinsow Tourism Village means providing new and different tourism selling power.

Since it was designated as a Super Priority Tourist Destination in 2019, Likupang has gradually become increasingly known by domestic tourists as a tourist attraction that deserves to be included in the holiday bucket list.

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Various types of natural tourist destinations that can be visited in Likupang include beaches, underwater scenery, savanna hills, mangrove forests, and various other tourist options.

Fig. 2. Likupang Marine Tourism

During the Covid 19 pandemic, both local communities and visitors must adapt to implementing CHSE, 3M, and 3T health protocols. In addition, collaboration in the form of mutual cooperation with institutions and the community is worked together to accelerate the economic growth of tourist destinations.

Respondent Profile

In order to obtain a general description of the respondents, the general data of the respondents were obtained through the answers from the questionnaire that were entered and were not damaged. Then a recapitulation list was made based on the respondent's age group, gender, type of job, amount of income, and business ownership status.

The analysis of respondent profiles was carried out with the aim of finding out more details about the characteristics of the respondent group (MSME business actors). By knowing and understanding the characteristics of tourists, Likupang tourism management and stakeholders can have information to determine, provide or even determine improvement steps more specifically. More details in Table 2 below:

Table 1. Respondent Profile

	Frequency	Prosentase
Age		
< 25 years old	51	20,40%
26 to 55 years old	120	48,00%
> 55 years old	79	31,60%
Quantity	250	100%
Gender		
Male	107	42,80%
Women	143	57,20%
Quantity	250	100%
Jobs		
Self-Employed/Entrepreneur	188	75,20%
Civil Servants/TNI/Polri/Private	41	16,40%

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		Frequency	Prosentase
	Retirees	21	8,40%
	Quantity	250	100%
	Education		
	Elementary/Junior High School	74	29,60%
	High School and the like	151	60,40%
	Diploma/Bachelor's	25	10,00%
	Quantity	250	100%
	Income (Rp/mo)		
	< IDR 2,000,000	51	20,40%
	2,000,001 n/d 4,000,000	107	42,80%
	> 4.000.000	92	36,80%
	Quantity	250	100%
	Business Ownership		
	Own	179	71,60%
	Not your own	71	28,40%
	Quantity	250	100%

PLS-SEM Analysis

Evaluation of the Outer Model

Loading Factor

The loading factor size > 0.7 can be said to have strong and valid convergent validity. In other words, the indicator is closely related to the corresponding construct.

Table 2. Loading Construction Factors

Constructs	Indicators	Statement Items	Loading
Local Community Welfare (LCW)	LCW1	My family is able to meet their daily needs well	0.790
	LCW 2	My family still has a stable source of income	0.844
	LCW 3	My family can access the necessary health care	0.884
	LCW 4	My family can meet the child's educational needs	0.884
	LCW 5	My family is able to maintain a decent quality of life	0.866
	LCW 6	My family can still buy secondary necessities	0.882
	LCW 7	My family can still save	0.864
Tourism Marine Economic (TME)	TME1	Likupang marine ecotourism creates job opportunities for the local	0.882
	TME2	Likupang marine ecotourism increases the income of the local community.	0.871
	TME3	Likupang marine ecotourism encourages the growth of local MSMEs.	0.842
	TME4	Likupang marine ecotourism opens market access for local products (handicrafts and typical foods).	0.864
	TME5	Likupang marine ecotourism helps the local economy survive during the COVID-19 pandemic.	0.789
Social-Culture Marine Economic (SCME)	SCME1	Likupang marine ecotourism encourages the preservation of local culture	0.903
	SCME2	Likupang marine ecotourism increases the local community's pride in the region's culture.	0.910
	SCME3	The local community actively participates in Likupang marine ecotourism	0.897

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Constructs	Indicators	Statement Items	Loading
	SCME4	Likupang marine ecotourism strengthens cooperation and mutual cooperation between residents.	0.901
Environmental Marine Economic (EME)	EME1	Likupang marine ecotourism helps protect the preservation of the marine and coastal environment.	0.864
	EME2	Likupang marine ecotourism activities encourage beach and sea	0.888
	EME3	Local communities are involved in environmental conservation activities due to marine ecotourism.	0.903
	EME4	Likupang marine ecotourism increases public awareness about the importance of protecting the natural environment.	0.881
Local SME Resilience (LSR)	LSR1	Local MSMEs in Likupang are able to adapt to changing situations	0.870
	LSR2	Local MSMEs in Likupang are creative and innovative in facing	0.874
	LSR3	Local MSMEs in Likupang utilize technology (online marketing)	0.818
	LSR4	Local MSMEs in Likupang are able to maintain the financial stability of	0.853

Table 2 shows that all constructs have loads that meet the requirements of >0.7 so that all constructs can be included in the model for further evaluation.

CR (Composite Reliability) dan Convergent Validity (CV)

As a general technique for assessing reliability, Cronbach alphas do not consider individual indicators in calculations. Meanwhile, the reliability of the composite is Joreskog (1971), which considers individual indicators based on their load. The reliability level of composites between 0.70 and 0.95 is considered "satisfactory to good" (Hair et al., 2017).

Convergent validity is a common metric of reflective measurement models that measures the degree of convergence of indicators of a construct, thus explaining the variance of items. The average extracted variance (AVE) score indicates convergent validity. Acceptable AVE is at least 0.5.

Table 3. Composite Reliability (CR) and Convergent Validity (CV)

Constructs	Cronbach's alpha	CR (rho_a)	CR (rho_c)	AVE
Local Community Welfare (LCW)	0.868	0.874	0.901	0.604
Tourism Marine Economic (TME)	0.894	0.788	0.841	0.580
Social-Culture Marine Economic (SCME)	0.907	0.912	0.935	0.783
Environmental Marine Economic (EME)	0.921	0.822	0.944	0.808
Local SME Resilience (LSR)	0.736	0.740	0.850	0.655

Table 3 shows that the five constructs meet the required measurement criteria so that it can be said that all constructs are valid and reliable.

Discriminant Validity: HTMT (Heterotrait-Monotrait) Ratio

Discriminant validity indicates the extent to which a theoretical construct is completely different from another construct in the same model. There are two main criteria to determine discriminant validity based on HTMT, namely: HTMT < 0.85 → Discriminant validity is very strong (Henseler et al., 2015). HTMT < 0.90 → Discriminatory validity is still acceptable in the context of social, management, and business research (Gold et al., 2001).

Table 4. HTMT Ratio

Discrimination between Constructs	HTM

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TME ↔ LCW	0.431
TME ↔ SCME	0.383
SCME ↔ LCW	0.151
EME ↔ LCW	0.649
EME ↔ SCME	0.462
EME ↔ TME	0.357
LSR ↔ LCW	0.790
LSR ↔ SCME	0.763
LSR ↔ TME	0.409
LSR ↔ EME	0.812

Table 4 shows all HTMT values < 0.85 indicating constructs that differ from each other (strong discriminatory)

Fornell-Larcker Criterion

The Fornell and Larcker criteria are methods for assessing discriminant validity, which compares the square root of AVE of each construct with the correlation of that construct with the others. Discriminant validity is formed when the square root of AVE is greater than this correlation, which indicates that the construct is more closely related to its own indicator than to other constructs, thus confirming its peculiarity and validity.

Tabel 5. Fornell-Larcker Criterion

	Business Performance	Digital Inovation	Digital Literacy	Market Orientation	Owner's Commitment
Business Performance	0.880				
Digital Inovation	0.625	0.865			
Digital Literacy	0.715	0.637	0.856		
Market Orientation	0.608	0.774	0.641	0.856	
Owner's Commitment	0.472	0.461	0.512	0.597	0.886

Table 5 shows that the Fornell-Larcker value for each construct (yellow) is greater than the other constructs diagonally. This means that these constructs are closely related to their respective indicators compared to other constructs.

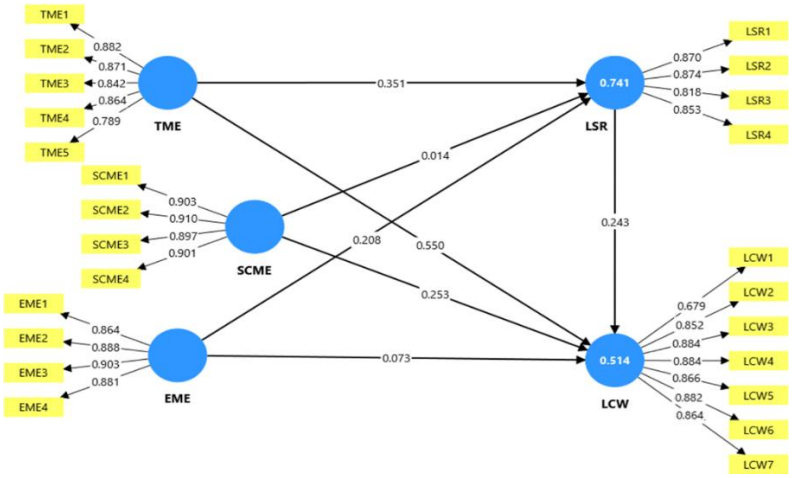

Fig. 3. Measurement Model

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Overall, the results of the evaluation of this outer model show excellent measurement quality, validity, and reliability, so that the tested model can be trusted for subsequent structural analysis. The constructs and indicators used have strongly reflected the theoretical concepts being studied, allowing for more credible interpretation and generalization of research results.

Inner Model Evaluation

Collinearity

The variance inflation factor VIF is a value used to evaluate the multicollinearity between indicators in one construct and between latent variables. A VIF value of < 5 indicates no collinearity issues among predictor constructs (J F Hair et al., 2022). Based on the Smart-PLS v.4 output, each indicator shows that the VIF value is below the 5.0 threshold, namely the LCW ranges from 2,847 – 3,358; TME: 1,927 – 2,916; SCME: 2.125 – 2.284; EME: 1,862 – 2,604 and LSR: 2,126 – 2,332. Thus, it can be concluded that there is no problem of multicollinearity between indicators in each construct. Meanwhile, the VIF values between latent variables were all below 5 (the highest in the relationship between Environmental Marine Economic (EME) → Local SME Resilience (LSR) of 3.174), so that there was no high corlinearity between predictor constructs in the structural model. In other words, each construct is free from excessive linear influences and is able to explain variance uniquely.

R2 (R-Square)

The R-square value (R^2) is used to assess the proportion of endogenous construct variance that can be explained by the exogenous construct in the model. The LCW construct calculation results have $R^2 = 0.514$ (R^2 adjusted = 0.534), while the LSR construct has $R^2 = 0.741$ (R^2 adjusted = 0.721). This means that the model is able to explain around 51.4% of the Local community welfare (LCW) variance and 74.1% of the Local SME Resilience (LSR) variance. The R^2 value of around 0.514 is moderate to substantial, or the integrative model has a fairly high explanatory power in the context of the phenomenon being studied (Hair et al., 2017). In other words, Tourism Marine Economic (TME), Social-Culture Marine Economic (SCME), Environmental Marine Economic (EME), and Local SME Resilience (LSR) together are quite strong predictors of Local community welfare (LCW).

f2 (Effect Size)

The value of f^2 reflects how much the R^2 of the endogenous construct decreases if a particular exogenous construct is excluded from the model. The influence of each exogenous variable can be qualified as small, medium, or large, f^2 0.02 = small; 0.15 = medium; 0.35 = large (Selya et al., 2012). Against LCW, the EME construct had the greatest effect ($f^2 = 0.222$) followed by SCME ($f^2 = 0.208$) and TME ($f^2 = 0.178$). Meanwhile, LSR as a direct predictor of LCW has $f^2 = 0.067$, relatively small but still has a positive value. This means that LSR makes the most dominant relative contribution in explaining LCW variance, followed by SCME and TME. Meanwhile, LSR, although significant in its influence, has a smaller relative contribution. Against LSR, the EME construct shows a very large effect with $f^2 = 1.008$. This value far above 0.35 indicates that the EME construct is the main determinant of the LSR variance in this model. TME has $f^2 = 0.231$ (moderate effect tends to be large) on LSR, while SCME has a value of $f^2 = 0.004$ (very small/no significant effect).

Model Fit (SRMR, NFI)

To evaluate the overall fit of the model, SRMR (Standardized Root Mean Square Residual) and NFI (Normed Fit Index) indicators were used. The SRMR value of the saturation model and the estimation model is 0.078. An SRMR value below 0.08 indicates a good fit, meaning that the discrepancy between empirical covariance and model

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covariance is very small. This indicates that the structure of the model built is in accordance with the observational data (e.g., there is no significant mis-specification).

Meanwhile, the NFI was recorded at ~0.80 (based on output: 1.801 which is thought to mean 0.801 on a scale of 0–1). An NFI value of about 0.80 indicates a sufficient level of model suitability; Although it has not passed the conventional threshold of 0.90 for an excellent fit model, it is close to that value. Overall, the combination of SRMR of <0.08 and NFI of ~0.80 indicates that the research model has an acceptable match with the data.

Direct Path Coefficient (Hypothesis Test)

The bootstrapping method is used to calculate *the t* and *p values* of the path coefficient. In addition, bias-corrected and accelerated confidence intervals were investigated. Since the "0" is not located within this confidence interval, it would be considered significant. The results of the direct path coefficients analysis through bootstrapping tested the significance of the H1–H7 hypothesis. In general, Table 6 below shows most of the direct relationships between significant variables as predicted in the direction of influence. However, H1 shows insignificant results (Unsupported).

Tabel 6. Direct Path Coefficient

Hypothesis		Original sample (O)	Sample mean (M)	Standard deviation (STDEV)	T statistics (|O/STDEV|)	P values	Conclusion
H1	**EME -> LCW**	0.088	0.074	0.121	0.604	0.073	Not-supported
H2	**EME -> LSR**	0.550	0.549	0.084	6.527	0.000	Supported
H3	**LSR -> LCW**	0.243	0.244	0.092	2.645	0.004	Supported
H4	**SCME -> LCW**	0.253	0.253	0.109	2.315	0.010	Supported
H5	**SCME -> LSR**	0.214	0.221	0.085	0.170	0.014	Supported
H6	**TME -> LCW**	0.208	0.208	0.079	2.631	0.004	Supported
H7	**TME -> LSR**	0.351	0.352	0.057	6.113	0.000	Supported
H8	**EME-> LSR -> LCW**	0.133	0.135	0.057	2.359	0.009	Supported
H9	**SCME -> LSR -> LCW**	0.237	0.202	0.022	0.162	0.043	Supported
H10	**TME -> LSR -> LCW**	0.085	0.087	0.037	2.289	0.011	Supported

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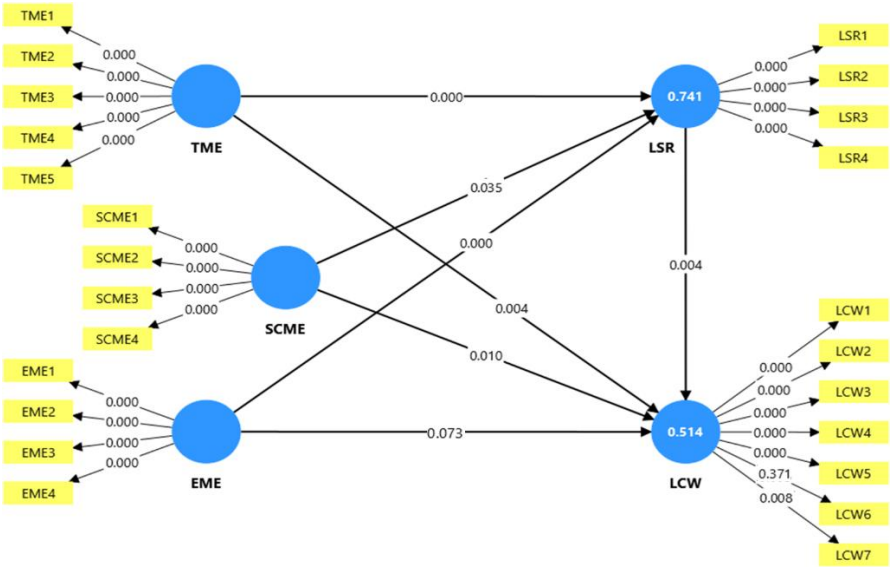

DISCUSSION

In the direct relationship, it was found that the different roles of TME and EME constructs in improving the welfare of local communities were found. TME) had a significant positive effect on LCW (pathway coefficient $\beta \approx 0.21$; $p < 0.01$), which supports the hypothesis that increased activity and economic benefits from Likupang marine ecotourism directly improve the socio-economic well-being of local households. These findings are in line with previous studies, where households involved in marine tourism tended to be more prosperous than those who did not; There are significant differences in well-being between these groups (Bahukeling et al., 2019). The same thing was reported by a study in Malaysia, that the implementation of community-based tourism (CBT) makes a significant contribution to the socio-economic well-being of the local community of Redang Island (Abukhalifeh & Wondirad, 2019). This is consistent with the World Bank's report that nature-based tourism in tourism potential areas can create jobs and increase people's income; Tourist spending on transportation, food, accommodation and activities flows in the local economy, resulting in a multiplier effect for households, including poor households (World Bank, 2024).

In contrast, the direct effect of EME on LCW was found to be insignificant at the 5% level. The EME coefficient → LCW has a small positive value ($\beta \approx 0.09$) but its significance is weak ($p = 0.073$). This means that environmental economic efforts and benefits (e.g. coral reef conservation, coastal cleanliness, community involvement in conservation) do not directly improve the economic well-being of local communities in the short term. These findings show that improving the condition of the natural environment alone is not enough to increase income or meet family needs without going through other mechanisms. This is because environmental benefits tend to be long-term and are not directly felt as cash (Ekins & Zenghelis, 2021), for example, maintaining marine sustainability may only feel the economic benefits when there are tourists who come or when people have businesses that take advantage of the sustainable environment. However, the positive coefficient of EME indicates a direction of influence that is in line with expectations (environmental conservation supports welfare), only the direct effect is small.

SCME construct, as a representation of the socio-cultural aspects of marine ecotourism has a significant direct effect on welfare ($\beta \approx 0.25$; $p < 0.05$). This indicates that marine ecotourism that encourages the preservation of local culture, community participation, and community mutual cooperation has a positive impact on community welfare.

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Possibly, this impact appears in the form of subjective well-being and social capital: for example, increased pride and social cohesion can support a socio-economic environment that is more conducive to family well-being.

Meanwhile, LSR itself has been shown to have a significant positive impact on local welfare ($\beta \approx 0.24$; $p < 0.01$). This means that the more resilient and adaptive local MSMEs are, the better the welfare of the people in Likupang. The resilience of MSMEs, which is characterized by the ability to adapt, innovate, go digital, and maintain business financial stability, seems to have an impact on the ability of local families to maintain income, meet needs, and face economic turmoil. These findings reinforce the idea that the sustainability of local small businesses contributes to the economic resilience of households and communities. This is in line with the findings that small businesses can play a role in post-crisis community recovery through financial and material contributions, as well as social responsibility actions, thereby accelerating the recovery of local communities (Adekola & Clelland, 2020). This indicates that if local MSMEs are able to survive shocks (for example, the tourist season or pandemic), local communities are better able to maintain their welfare.

The role of LSR mediation in the relationship between maritime economic constructs and community welfare is statistically confirmed. First, both TME and EME have a significant positive effect on LSR. The effect of TME → LSR has a coefficient of $\beta \approx 0.35$ ($p < 0.001$), while the EME → LSR are even higher ($\beta \approx 0.55$; $p < 0.001$). This means that the economic development of Likupang marine tourism encourages the increase of LSR, as well as EME also strengthens LSR. The influence of EME on LSR is the largest (compared to TME) shows that natural capital/environmental capital is very crucial for the resilience of local businesses in the tourism sector. Maintained environmental conditions can ensure sustainable marine tourism, so that MSMEs that depend on environmental services (such as dive tour operators, fishermen, homestay providers in coastal areas) are better able to survive and adapt because their main business resources (nature) remain sustainable. In other words, environmental sustainability provides a guarantee of supply for MSMEs and encourages them to innovate, for example developing new conservation-based ecotourism. Likewise, SCME constructs have an impact on LSR. These findings are interesting because SCME indicators include community participation and cooperation (*gotong royong*), which in theory is part of social capital which implies that ecotourism socio-cultural activities (such as cultural preservation and citizen participation in tourism events) are able to directly increase the adaptive capacity or power of local businesses. This is in line with a qualitative study on tourism villages in 5 super priority destinations (including Likupang) confirming that community homogeneity and strong social ties contribute to the high resilience of the tourism village community (Hariyanto & Asthu, 2025).

The effect of LSR mediation can be seen in the indirect effect of TME and EME on community welfare. The indirect influence coefficient of TME → LSR → LCW is about $\beta = 0.085$ and is significant ($p = 0.011$). This suggests there is a significant mediating influence: part of the positive impact of the marine tourism economy on local welfare is channeled through increased MSME resilience. In other words, the resilience of MSMEs plays a role as a partial mediator for the influence of the tourism economy on welfare. TME not only has a direct impact, but also promotes welfare by making MSMEs more resilient, which in turn helps local families maintain their welfare (for example, MSMEs are able to continue to operate and absorb local workers despite shocks). Meanwhile, the indirect influence of EME → LSR → LCW was recorded to be greater ($\beta = 0.133$) and significant ($p < 0.01$). Given that the direct influence of EME → LCW is insignificant, it can be concluded that the impact of EME on welfare is fully mediated by the resilience of MSMEs. So, the contribution of environmental aspects to community welfare will be realized if the environment is able to increase the resilience and sustainability of local businesses. Without resilient MSMEs, conservation efforts or environmental quality may not have a real impact on people's income. The findings of the significant influence of LSR → LCW as well as the mediating effect of LSR for TME and EME are in line with the view that local economic resilience plays a major role in ensuring that the benefits of development are felt sustainably

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by the community. The results of the study stated that local small and medium-sized businesses and communities are "two sides of the same coin", both intertwined in the face of crises (Adekola & Clelland, 2020). Resilient businesses not only survive internally, but can also contribute to community resilience, for example by playing a role in post-disaster recovery activities and keeping the wheels of the local economy spinning (Adekola & Clelland, 2020). In the context of tourism, a study conducted a review of the global literature and concluded that the resilience of tourism MSMEs is an important catalyst for the overall resilience of tourist destinations with the explanation that LSR mediates the tourism relationship, where well-being reinforces the conclusion. Without resilient MSMEs, the benefits of tourism may be cut off when there is a shock, so that people's welfare is vulnerable (Badoc-Gonzales et al., 2022).

The magnitude of this mediating role is reflected in the effect of the size (f^2) of the construct on endogenous variables. For the LCW variable, the EME construct had the *largest* f^2 (0.222), followed by SCME (0.208) and TME (0.178). The dominant EME contribution is reasonable because EME strongly determines the variance of LSR (even *the* f^2 EME to LSR reaches 1.008, the effect category is huge), and LSR in turn impacts LCW. Meanwhile, TME and SCME have a moderate (near-large) effect on LCW. The f^2 LSR to LCW is 0.067 (small category) – the value is indeed lower than the contribution of exogenous constructs, but it is still positive and significant. This small f^2 value is understandable because LSR acts as a mediator between the three exogenous constructs and LCW; most of the LCW variance has been described directly by TME and SCME. However, the role of LSR cannot be ignored: with its small contribution, it allows the previously insignificant EME to have a significant total impact on well-being. In short, TME construction is able to improve community welfare both directly and through increasing the resilience of MSMEs (partial mediation), while EME construction will only improve community welfare if it is able to encourage MSME resilience (full mediation). This finding emphasizes the importance of *capacity building* of local business actors as a bridge so that the economic and environmental potential of ecotourism is truly converted into real welfare for the local community.

Thus, this study adds empirical evidence that environmental conservation must be accompanied by community economic empowerment to have an impact on welfare. The results show that EME itself does not directly hoist welfare without going through the resilience of MSMEs. It is in line with the concept of sustainable development that emphasizes *Linkage* Between the Environmental and Economic Pillars: The benefits of conservation are only social-economically real when local communities are involved and able to take advantage of them. The World Bank's case study notes that successful natural tourism is usually characterized by a mechanism in which tourism revenues are partially channeled to local communities as well as being an incentive for them to support conservation (World Bank, 2024). In other words, communities need the capacity (through business groups, cooperatives, etc.) to capture economic opportunities from a sustainable environment. Without it, conservation can be seen by residents as a cost/opportunity cost alone. Previous research in the fisheries and coastal tourism sector has also shown similar patterns such as tourism consumption contributing to improved household welfare in areas where the population is directly involved in serving tourists (Y. Yang et al., 2020). So, it is clear that the link between the environment and welfare is heavily mediated by local economic capacity.

CONCLUSION AND IMPLICATION

Theoretically, this research contributes to an integrative understanding of sustainable tourism development and community welfare by including resilience variables as mediation. The findings that MSME resilience mediates the relationship between marine ecotourism and community welfare supports the theoretical framework of community resilience and sustainable livelihood. This research model shows that welfare will be maximized if there is a balance between economic benefits, environmental conservation, and community empowerment. Conceptually, LSR as a mediator clarifies the mechanism of benefit transmission: the theory of economic spillover from tourism to local

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communities is extended with elements of business resilience. It provides empirical support to the literature linking business resilience and community resilience to the specific context of ecotourism.

This research also provides quantitative evidence on the crucial role of natural capital in welfare models through resilience pathways. Many previous development theories have placed natural capital as one of the assets in *the sustainable livelihoods framework*, but it is often difficult to measure its impact. The finding that EME has the largest effect size on both LSR and LCW (indirectly) shows that a preserved natural environment can be considered as a foundation for local economic resilience, especially in tourist destinations. In theory, this underscores the importance of including environmental variables in local economic development models. In the tourism literature, these findings support the concept of eco-economic development, which is the idea that investment in environmental conservation can generate economic dividends for communities, as long as there are *enabling factors* such as the resilience of MSMEs.

From the methodological perspective of PLS-SEM, this study supports the use of *a variance-based SEM* approach to test complex models in the field of tourism. With a sufficiently high R^2 and an adequate fit model, this study shows that multidimensional constructs (economic, social, environmental, resilience) can be analyzed simultaneously to understand the phenomenon of well-being. This provides the basis for the development of further cross-disciplinary theories (tourism, regional economics, resilience studies) using SEM. In summary, the main theoretical implication of this study is the affirmation that the resilience of local MSMEs is an inseparable component in the theory of sustainable tourism development, which bridges economic capital and environmental capital to achieve the welfare of local communities.

The findings of this study also provide practical/managerial implications for stakeholders, especially local governments, managers of the Likupang Special Economic Zone (SEZ), as well as tourism agencies and MSME empowerment. Tourism policies should be directed to continue to encourage the participation of local communities in the tourism value chain, such as tourism service training programs, encourage the emergence of new local micro-enterprises (homestays, culinary, handicrafts) and ensure that jobs in the tourism sector are more filled by local workers. This is important so that the "tourism dollar" stays in the community and does not leak out of the area. In addition, the government can facilitate market access for local products (as measured in the TME4 indicator) through events, exhibitions, or digital platforms so that local MSMEs can directly feel an increase in income from tourism.

The government and stakeholders need to design special programs to strengthen the resilience of MSMEs in Likupang, such as business risk management training (for example, dealing with fluctuations in tourist visits or natural disasters), assistance in product innovation and marketing digitalization, easy access to capital and low-interest credit, and the establishment of cooperation networks between MSMEs. Therefore, increasing digital literacy and technological adaptation for marine tourism MSME actors needs to be accelerated. The central government through the Ministry of Tourism and Creative Economy and the Ministry of MSME Cooperatives can make Likupang a pilot project to assist resilient MSMEs in super priority tourist destinations.

The new influence of EME through MSMEs indicates the need for a strategy to marry conservation goals with local economic development. This means that environmental conservation programs in Likupang must deliberately involve and empower local communities in activities that also generate income. For example, training local residents as nature tour guides (rangers) or local diving instructors, so that they get income while protecting the environment. Programs such as environmental service payments (PES) or revenue sharing funds for entrance fees to tourist areas can be given to local communities as economic incentives to help protect the environment. Thus, communities experience the immediate benefits of conservation, which in turn improves well-being while ensuring long-term sustainability.

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Although socio-cultural capital does not directly increase the resilience of MSMEs in this finding, it does not mean that the social aspect can be ignored. In fact, social capital can be the foundation for empowerment programs. Local governments and destination managers can facilitate the establishment of communication forums or tourism MSME cooperatives in Likupang. Through this forum, business actors can share information, experiences, and possibly conduct joint marketing. Strong social ties can be directed to real economic cooperation, for example, a group of souvenir craftsmen can coordinate with a group of homestay managers in marketing their products to guests, etc. In addition, it is necessary to maintain that the local community remains the main actor (not just spectators) in cultural tourism activities, so that the increased cultural pride from ecotourism can be capitalized into the spirit of entrepreneurship. In essence, socio-cultural factors need to be empowered to be in harmony with economic goals. The government can hold an annual cultural festival in Likupang which is also a place to promote MSME products, so that cultural preservation and income increase go hand in hand.

Overall, the practical implications emphasize a holistic approach to the development of Likupang as a super-priority destination: it is not enough to just boost tourists or protect the environment, but it is necessary to empower local actors so that the long-term economic benefits can be felt. Stakeholders (government, private, academics) need to collaborate in a real pentahelix approach, for example, academics help with MSME training, large private sector collaborates with local suppliers, the government provides pro-MSME infrastructure and regulations, and communities are actively involved in decisions, so that the Likupang tourism ecosystem becomes resilient and prosperous.

This study has several limitations, namely the design of this study is cross-sectional with data collected through a perception questionnaire. Consequently, the causal relationship between variables is inferred based on theory and statistical analysis, but cannot be definitively ascertained. Future longitudinal studies will help confirm the causality direction of these findings. The research model focuses only on three exogenous constructs (TME, EME, SCME) and one mediator (LSR) in explaining well-being. In fact, people's welfare is multidimensional and influenced by many other factors that have not been involved in the model. There is a possibility of common method bias because all data is collected from the same source (survey respondents) at a given time. Realizing these limitations, future research may be able to consider and complement the existing limitations.

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