Development Model for Increasing Community Participation in Tourism Management of Open Pit Nam Salu Geosite in East Belitung Regency

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ABSTRACT
Tourism sector plays an important role in increasing the country's foreign exchange and promoting the creation of jobs to improve the economy. In this context, community organizations manage tourism sites, and the leaders are tasked with directing members to achieve common objectives. An important tourist site is Open Pit Nam Salu Geosite and participation is relatively low since people depend on illegal tin mining. Village government and community organizations are less assertive in overcoming the problems. Therefore, this research aims to analyze development model for increasing participation in tourism management of Open Pit Nam Salu Geosite in Senyubuk Village, Kelapa Kampit District. The location determination was carried out purposively, with 87 respondents selected by cluster sampling method through the PLS test. The results showed an indirect effect of community capital and leadership on participation through group roles. Meanwhile, leadership promoted participation since community capital and group roles served as mediator variables. Pokdarwis and village government were also strengthened in organizing community to maximize the potential of capital in the region and mobilize BAPOPNAS group to manage tourism daily.

INTRODUCTION
Tourism is an important sector used to increase the country's foreign exchange. Based on data from the Central Statistics Agency released in 2022, the numbers of foreign tourists and archipelago trips are around 11,778,062 and 749,114,709, respectively. According to data from the Ministry of Tourism and Creative Economy in 2022, the amount of foreign exchange derived from the
sector is 6.72 billion USD. The contribution was classified as a high increase since only 0.52 billion USD was obtained in 2021. In this context, community participation enhances economic growth in a region and increases prosperity. The existence promotes the creation of micro, small, and medium enterprises (MSMEs) managed by the surrounding community to support development of the sector (Anggarini, 2021). MSMEs also improve the economy as a promising business opportunity with growing tourism to create new jobs and cause active participation in developing the sector.

Tourism location is managed through the role of institutions or organizations at the provincial, district or level of smaller administrative regions (Junaid & Salim, 2019). According to Robbins (1991) in Suwarno et al., (2022), an organization is a social unit consisting of two or more people with a structured and coordinated work pattern, as well as predetermined common goals. This unit strives to increase profits and economic benefits, as well as preserve tourist sites to become tourist attractions. Tourist attractions are the key to tourism growth in increasing the number of visits (Dolorosa & Kurniati, 2019). Therefore, community organizations play an important role in managing tourism sustainability, such as regulating levies, parking, and managing facilities.

Different levels of changes are experienced in implementing tourism management. These can be caused by advances in technology and increase in skills. An organization needs the role of the leader to determine the direction of change in implementing the activities (Pertiwi & Atmaja, 2021). Community organization for managing tourism include awareness groups and village governments. The existence of leaders is an important factor in directing members to achieve common objectives.

Advanced tourism is connected to the leadership shown by the head of the organization, who effectively guides, motivates, and directs community to actively engage in management (Herliana et al., 2021). Village heads and organizational leaders serve as central figures in development and increasing public awareness (Liow et al., 2015).

In development process, an organization require capital to support the implementation of development activities. Community capital consists of natural, physical, political, human, economic, social, and cultural capital used as evaluation material for development activities. Additionally, it is a resource owned by a group of people and is used to promote the improvement of the economy (Butler et al., 2024).

Community-based tourism uses participation in management activities and improves the long-term economy. An important tourist location is Open Pit Nam Salu Geosite, which is part of the Belitong Geopark. The location has the potential to be developed into a site for the Belitong UNESCO Global Geopark (UGG). This is attributed to the presence of outcrops showing...
metasedimentary formations in the Permian-Carboniferous period (360-245 million years ago). Geosite Open Pit Nam Salu tourist area has a geological heritage in the form of the culture and history of tin mining. In the area, rock outcrops are located in open mines with a depth of more than 50 meters. The rocks can be used to describe the oldest formations on Belitung Island, with various geological folds. In addition, the Nam Salu Open Pit Geosite location contains the oldest underground tin mining.

A bottom-up method is applied through communication and direction set by members of organizations. Open Pit Nam Salu Geosite is managed by Senyubuk Village Government (pokdarwis), Tourism Awareness Group, Open Pit Nam Salu Management Agency (BAOPNAS), and Mining Village Nature School (SATAM). Tourism awareness groups and BAOPNAS were established by the East Belitung Regency Tourism Office and local people.

The leadership of organizations in Senyubuk Village plays an important role in raising awareness and providing direction and motivation to support tourism management. The capital owned by Senyubuk Village is high, with abundant natural wealth used to support development.

Based on information in the field, public participation and awareness in tourism management are relatively low. The low participation is because of the high dependence on tin mining, which has more income. This has become a challenge for the village government and pokdarwis organizations in directing and increasing public awareness of managing Open Pit Nam Salu Geosite. Therefore, this research aims to analyze development model in increasing participation in management of Open Pit Nam Salu Geosite in East Belitung Regency.

**METHODS**

Primary data were obtained through interviews and observations, while secondary data were sourced from documents of the Senyubuk Village Government, Awareness Group, and BAOPNAS, as well as books and journals related to the research. Furthermore, the basic methods used were descriptive and quantitative research methods.

The location was selected purposively because of tourism potential in the form of ancient geological rocks managed by the local community. The research was conducted from May to December 2023 and the data collection process in Senyubuk Village was carried out in November. Sampling was carried out using the cluster method, which determined samples by taking representatives from each region. This method enables every member of a region to have an equal opportunity to be selected as a sample, facilitating research with a reduced sample size. Meanwhile, the results described the local community in Senyubuk Village, including Jawa, Selindang, Kelapa Kampit, Merdeka, and Pelataran Hamlets without using the entire
members. Data analysis was conducted using the PLS test to analyze factors with direct and indirect influence.

RESULTS AND DISCUSSION

Leadership is an important factor used for determining the vision, mission, and objectives of a group. In addition, this variable has a great influence on building relationships between group members. Therefore, a leader must motivate the members to carry out tasks responsibly and create optimal cooperative relationships in achieving group objectives. In this context, leadership is used to determine the role of the Senyubuk Village Government and Tourism Awareness Group in providing direction and encouragement (Rahmawati et al., 2022). The village government and organizations carry out external encouragement to increase public awareness. Tourism management is development program implemented to create change and progress for Senyubuk Village. A form of direction given to community is related to optimizing the capital owned by Senyubuk Village.

Advanced tourism is connected to the leadership style of guiding, motivating, and directing community to actively participate in management (Herliana et al., 2021). According to Northouse (2016), the path-goal theory is related to a person's leadership in achieving predetermined objectives and improving the performance of group members. There are four types of leadership behavior in running Nam Salu Open Pit Geosite management, namely

a. Directive Leadership
The leader directs community members to perform tasks related to managing tourism, preserving nature, conducting mutual aid, and participating in group activities.

b. Supportive Leadership
A pleasant atmosphere can be generated in the group to meet the welfare and needs of the members.

c. Participatory Leadership
Opportunities are provided for members to make decisions and actively participate in deliberation.

d. Achievement-oriented leadership
Leaders motivate members to achieve predetermined tourist visitor targets, promote the cleanliness of sites and nature sustainability, as well as promote branding by using social media.

<table>
<thead>
<tr>
<th>Leadership</th>
<th>Achievement (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Directive/Direction</td>
<td>44.14</td>
</tr>
<tr>
<td>Supportive</td>
<td>47.67</td>
</tr>
<tr>
<td>Participatory</td>
<td>50.30</td>
</tr>
<tr>
<td>Achievement-Oriented</td>
<td>56.46</td>
</tr>
</tbody>
</table>

Source: Primary Data Analysis, 2024
Based on Table 1, the highest component of leadership is achievement-oriented, with a percentage of 56.46% (sometimes). Therefore, the village government and pokdarwis have motivated the people of Senyubuk Village to preserve the surrounding natural conditions. Open Pit Nam Salu Geosite refers to natural beauty, and different efforts are needed to maintain sustainability. This is due to the tradition of tin mining carried out for generations by the people of Senyubuk Village. Tin mining is located in hilly areas, and the increased activities can interfere with tourism development. Community is also motivated by using Instagram to introduce Open Pit Nam Salu Geosite to tourists.

The lowest leadership component is directive or directional, with a percentage of 44.14% (sometimes). The direction has not been accompanied by a firm attitude from the leader, hence community has not fully participated in tourism management. However, the absence of optimal support and clear policies reduces the flow. Directives accompanied by encouragement and financial assistance have caused community to be less enthusiastic about activities. This is evidenced by the existence of village funds and BUMDES outside the context of tourism. In addition, the village government and pokdarwis have submitted a master plan without follow-up. The master plan is the concept of development planning in Senyubuk Village, but there has been no continuation.

The leader realized that Open Pit Nam Salu Geosite was a potential tourism to be developed. However, there were clashes and obstacles in the implementation due to the lack of maximum encouragement. Based on Table 1, participatory leadership and achievement must be improved due to higher levels of achievement than other types. Participatory leadership needs to be improved to provide advice and input for tourism management. In addition, contributions must be enhanced to provide creative thinking to advance local tourism. Achievement-oriented leadership needs to be improved to determine development targets between the village government and pokdarwis. The target can be in the form of encouragement of tourism promotion to increase tourists and preserve nature.

In conducting roles and duties as leaders, village government and pokdarwis provide direction to use community capital owned by Senyubuk Village, and this includes: 

**a. Natural Capital**

Natural capital refers to the state of resources essential for supporting tourism management. This includes geological formations dating back hundreds of millions of years, natural landscapes, conditions, and biodiversity.

**b. Physical Capital**

Physical capital consists of public facilities and infrastructure used to carry out development free of charge. This includes toilet facilities, prayer rooms, trash cans, tour management
offices, vehicles, and road access to tourist sites.

c. Political Capital
Political capital is the power owned by local communities to control government policies. The indicator takes the form of leadership roles, the authority of hamlet heads, community participation, village government roles, and tourism participation roles in UNESCO Global Geoparks.

d. Economic Capital
Economic capital is a source of funding used to carry out tourism management activities and obtain economic and social benefits. This takes the form of financing from the government and non-government, potential tourists from other regions, tour agents, and promotion.

e. Human Capital
Human capital is the knowledge, abilities, and skills to conduct tourism management. This indicator is related to tin mining risks, ability to speak Indonesian and English, participation of the younger generation, and openness to tourists.

f. Social Capital
Social capital is a relationship between communities to achieve tourism management objectives and the indicators include social norms, social networks, and trust. The variable regulates tourism management, trust between communities, strength of kinship, desire for cooperation, as well as participation in meetings and mutual assistance.

g. Cultural Capital
Cultural capital owned by Senyubuk Village can increase tourist interest in visiting the location. The indicator is in the form of traditional clothing, history of former tin mine of Open Pit Nam Salu Geosite, rock formations, traditional food, and tin mining sites.

Community capital must be used optimally by Senyubuk Village to increase management of Open Pit Nam Salu Geosite. The level of achievement of the variable includes very low (0%-20%), low (21%-40%), medium (41%-60%), high (61%-80%), and very high (81%-100%), as reported in Table 2.

Table 2. Level of Community Capital Achievement in Tourism Management Geosite Open Pit Nam Salu

<table>
<thead>
<tr>
<th>Community Capital</th>
<th>Achievement (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Natural Capital</td>
<td>66.96</td>
</tr>
<tr>
<td>Physical Capital</td>
<td>59.48</td>
</tr>
<tr>
<td>Political Capital</td>
<td>59.76</td>
</tr>
<tr>
<td>Economy Capital</td>
<td>61.88</td>
</tr>
<tr>
<td>Human Modal</td>
<td>53.28</td>
</tr>
<tr>
<td>Social Capital</td>
<td>60.00</td>
</tr>
<tr>
<td>Cultural Capital</td>
<td>59.19</td>
</tr>
</tbody>
</table>

Source: Primary Data Analysis, 2024
Based on Table 2, the highest component is natural capital with a percentage of 66.96% (high). Therefore, Senyubuk Village has high natural potential and can be used to promote tourism development. The natural potential includes ancient geological rocks, which add to the uniqueness of Open Pit Nam Salu Geosite, as well as the natural scenery and hills used as tourist sites. This potential must be preserved to increase the sustainability of tourism development. Contribution and participation must be increased, considering the potential of becoming the main attraction in Senyubuk Village. Therefore, community was sensitized to reduce illegal tin mining activities in hilly areas. Based on conditions in the field, some individuals have an awareness to protect the natural environment while others are actively mining tin. The continual mining activities of natural resources threaten the condition of natural sustainability.

The lowest component of community capital is human, with a percentage of 53.28% (medium). Therefore, the people of Senyubuk Village have limited knowledge and ability to manage Open Pit Nam Salu Geosite. Community is quite unfamiliar with the risks arising from the existence of tin mines. This is evidenced by the mining activities conducted by community to the exclusion of the safety factor and the younger generation does not participate in tourism management. The condition initiated the establishment of a natural school called SATAM (Sekolah Alam Desa Tambang) to regenerate managers by increasing awareness of sustainability. As Geosite incorporated into Belitung UNESCO Global Geopark, foreign tourists often visit Open Pit Nam Salu Geosite. However, the ability of the individuals to speak English is relatively low and this causes a language barrier.

The leaders and people of Senyubuk Village realize that the area has a high potential to be developed as a tourist site. However, this awareness must be balanced with concrete actions from the government and community to implement various programs optimally. More intensive cooperation and communication are needed to avoid misunderstandings in managing tourism. Efforts to increase participation in management of Open Pit Nam Salu Geosite are directly or indirectly influenced by several factors. Direct and indirect influence arise on exogenous and endogenous variables in the absence and absence of mediators, respectively. Meanwhile, the total value is the sum of the direct and indirect influences.

Village leaders' role as government representatives should be carried out to regulate and promote participation within groups. The Senyubuk Village Government provides information related to regulations and funding assistance to the BAPOPNAS group. In addition, the group also plays a role in bridging the optimization of community capital. Senyubuk Village has various natural potentials, such as the existence of the deepest and largest former...
open-pit tin mine and ancient rock segmentations with beautiful natural scenery. The group plays an important role as an intermediary between village leaders, pokdarwis and community.

The contribution forms tourism development model and community capital through leadership and PLS testing, respectively. The value is used to determine the direct and indirect effects on leadership, community capital, group role, and participation. In addition, the value of PLS testing determines the magnitude of the influence between variables. The amount of influence can be used to formulate an optimal and maximum tourism development strategy to achieve group objectives. Model for increasing participation in Open Pit Nam Salu Geosite is presented in Figure 1.

Analysis of the structural model of SEM PLS is performed to measure the feasibility. Structural model evaluation analyses model's ability to describe the research. The analysis of structural models in PLS-SEM can be distinguished into outer and inner.

**1. Outer Model**

Outer model analysis is carried out to determine validity and reliability. According to Akter et al. (2017), the Measurement was conducted to test reliability, convergent validity, and discriminant validity. Reliability can be evaluated using values composite and Cronbach’s alpha (Sarstedt et al., 2014). Value composite reliability greater than 0.7 shows that the construct is reliable and the analysis of the outer model is reported in Table 3.

Based on Table 3, the composite reliability value of each construct
Validity measurement on structural model analysis focuses on convergent and discriminant validity. According to Sarstedt et al. (2014), convergent validity can be rated by AVE for each indicator. AVE is acceptable when the value is greater than 0.5. Table 3 shows that each construct's AVE value is greater than 0.5, hence each construct can explain more than 50% of the variance.

Discriminant validity is used to measure the extent a construct is different from another. Measurement discriminant validity can be seen by the Fornell-Larcker criterion, where the AVE value of each latent must be greater than the square of the correlation, as shown in Table 4. Each construct has a greater AVE value than correlation with others. An analysis of the R-square value can be performed to determine the effects of endogenous constructs on exogenous variables.

The R square value is the coefficient of determination in endogenous variables with criteria of 0.67 (strong), 0.33 (moderate), and 0.19 weak (Ghozali & Latan, 2015), as shown in Table 5. Table 5 shows that the R2 value of participation variable is 0.354. Therefore, 35.4% of participation variables are influenced by leadership, community capital, and group roles.

2. Inner Model
Inner model is used to determine the cause-and-effect relationships between latent variables (Muhtarom et al., 2022). Table 6 shows the total influence between latent variables.
The variable is considered significant when the calculated t-value and p-value are more than 1.96 and less than 0.05, hence the hypothesis can be accepted (Setiawan et al., 2022). The indirect influence exists between leadership and community capital, community capital and group roles, as well as group roles on participation. The calculated value of t (1.977) is greater than 1.96 and the p-value (0.048) is smaller than Alpha (0.05). Therefore, the indirect influence between leadership on participation through community capital and group roles has a significant and positive relationship. The leadership path coefficient for participation through community capital and group roles is 0.122 and positive. The indirect influence value suggests that the value of leadership leads to a 0.122 increase in participation. In this context, participation can be improved by increasing the role of groups and community capital due to the influence of leadership.

The magnitude of the value of leadership on participation is classified as a weak influence (0.122). This is shown by the role of village governments and pokdarwis in providing direction and encouragement to use the potential of the area through collaboration with organizations. The efforts increase public awareness and motivate several people to manage Open Pit Nam Salu Geosite.

Based on Table 6, there is a

<table>
<thead>
<tr>
<th>Table 6. Inner Model Analysis (Total Influence)</th>
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<tbody>
<tr>
<td><strong>Line</strong></td>
</tr>
<tr>
<td>-----------------------------------------------</td>
</tr>
<tr>
<td><strong>A. Leadership</strong></td>
</tr>
<tr>
<td>Leadership ➔ Community Capital ➔ Participation</td>
</tr>
<tr>
<td>Leadership ➔ Role of Groups ➔ Participation</td>
</tr>
<tr>
<td>Leadership ➔ Participation</td>
</tr>
<tr>
<td>Leadership ➔ Community Capital ➔ Role of Groups ➔ Participation</td>
</tr>
<tr>
<td><strong>Total (A)</strong></td>
</tr>
<tr>
<td><strong>B. Community Capital</strong></td>
</tr>
<tr>
<td>Community Capital ➔ Participation</td>
</tr>
<tr>
<td>Community Capital ➔ The Role of Groups ➔ Participation</td>
</tr>
<tr>
<td><strong>Total (B)</strong></td>
</tr>
<tr>
<td><strong>Total Influence</strong></td>
</tr>
<tr>
<td><strong>Total (A + B)</strong></td>
</tr>
</tbody>
</table>

Description: (*) significant at a significance level of 0.05
Source: Primary Data Analysis, 2024
significant indirect influence between community capital on participation through group roles. This is evidenced by the calculated t-value (2.376) and p-value (0.018) greater than 1.96 and smaller than alpha (0.05). Therefore, community capital significantly influences participation through group roles.

The magnitude of capital on participation is classified as weak (0.261) but the value is greater than the influence of leadership. Therefore, the influence caused by increasing participation tends to be greater without leadership.

A greater opportunity is provided for participation through organizations. The influence of capital shows that the local community has realized the region’s potential for progress. The high potential of Senyubuk Village is used by the BAPOPNAS organization (Open Pit Nam Salu Management Agency) to obtain better management.

In Table 6, the total influence of leadership on participation is 0.383 with a positive value. Furthermore, the combination of the variables strongly influences participation. The role of the group in bridging leadership and capital to increase participation can be seen from the existence of BAPOPNAS. The organization plays a role in providing opportunities for local communities to learn the potential of the area and historical information on Open Pit Nam Salu Geosite. Therefore, communities have the same opportunity to manage tourism provided there is an increased willingness to learn.

Based on the PLS model, leadership and community capital cannot direct participation. In this context, mediator variables are needed and this is supported by the level of leadership achievement in Table 1. The low level of leadership components cannot influence participation directly. Even though the variable is relatively low, the role of the leader is felt by community, as evidenced by the high component of social capital. In the social capital component, there is high compliance with written and unwritten rules. Village governments and organizations have been unable to optimally direct and support tourism management. The low support of the hamlet’s head and village government causes community to be less motivated.

The participatory and achievement-oriented leadership component can increase natural and economic capital. In addition, community is motivated to take advantage of the surrounding nature and the economy is driven through management activities.

The leadership of the village government and pokdarwis must be improved to increase the role of the group. In addition, legitimacy support is also required to regulate management and institutional support from the village government. Groups are expected to obtain synergy between the government and community in tourism management efforts. Therefore, leaders must be able to direct, motivate, and embrace community in creating harmony between organizations and the
CONCLUSION AND SUGGESTION

In conclusion, this research was carried out to analyze development model for increasing community participation in tourism management of Open Pit Nam Salu Geosite under two practical contributions. Firstly, there was a correlation between leadership impact on participation through community capital and group roles. This influence was quite weak, with a path coefficient value of 0.383. Leadership did not promote direct community participation because the achievements were relatively low. Secondly, the mediator variables considered were capital and group roles, serving as potential influences between leadership and participation. This influence was shown by the leadership of the Senyubuk Village Government and Tourism Awareness Group in providing direction and motivation to use community capital or potential.

The Senyubuk Village Government conducted evaluation activities for tourism management and received opinions, ideas and inputs from community. In addition, illegal tin mines should be minimized to prevent damage to nature and socialization activities must be initiated to support tourism management. BAPOPNAS should also motivate community participation and provide tour guide training.

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REFERENCE


