

Value chain analysis of Bee Jay mangrove ecotourism in Probolinggo

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ABSTRACT

Bee Jay Mangrove Resort ecotourism has an economically potential mangrove forests area. This study aimed to analyze the ecotourism management of Bee Jay Mangrove Resort in Probolinggo using value chain analysis. The research method was qualitative analysis utilizing interviews, observation, and documentation for data collection. The analysis used in this research is Porter's value chain analysis, which consists of the main activity and secondary activities. The results of the analysis showed that the primary activity is still not optimal, particularly in terms of marketing and sales optimization. Although supporting technology development programs have produced designs and products that use the eco green concept, the participation of local community members is still a little in human research management.

Key words: Ecotourism, Mangrove forest, Value chain

Introduction

Natural resources in coastal areas are divided into three types, namely mangrove resources, coral resources, and seagrass resources. Mangrove forest resource is a forest formation filled with Litoral plants that are affected by tides with anaerobic soil conditions. The existence of mangrove forests does not depend on climate, but it generally grows well in protected coastal areas, such as deltas and estuaries (Pariyono, 2006). Mangrove forests are the main ecosystem that supports life in coastal areas and waters. Not only does it provide large ecological functions, but mangrove forests also provide economic functions that are essential for community welfare, especially for people in coastal areas (Saprudin, 2012). Preserving and maintaining mangrove forest sustainability can be done by not converting land functions to other uses. Preserving mangrove forests will benefit the local community.

There are several benefits from preserving the mangrove forest, such as the direct use value, indirect use-value, and option value. The example of direct use-value is for tourism, providing medicinal materials, planting vegetables, and catching fish, shellfish, wood, birds, tourism, mangrove crabs, snakes, and birds. The indirect use values of mangrove forests can be as natural dikes, CO₂ absorbers, business ground, and spawning ground, microclimatic stabilizers, and storm protectors. The example of option value are biodiversity, inheritance value and bequest value (existence value) (Harahab, 2010).

Mangrove forest ecosystems provide direct and indirect benefits to humans. Mangrove ecosystem can be used as a tourism object within the province and outside the province. It also contributes to the economic income of the mangrove tourism area (Kusmana, 2016). Tourism is a series of activities, and the provision of services for the needs of tourist attractions, transportation, accommodation, and

other services to meet the needs of a person or group of people. Meanwhile, sustainable tourism is providing the tourists' needs of tourist destinations as well as providing opportunities to be more attractive object tourism in the future. The basic idea of sustainable development is the preservation of natural and cultural resources. Those resources are the needs of every person so that they can live in prosperity. Therefore, those resources must be maintained and preserved for future generations (Sugiama, 2011).

One of the management of mangrove tourism that concerns on economic and ecological sustainability is Bee Jay Bakau Resort (BJBR) in Probolinggo. The establishment of BJBR mangrove ecotourism involved three friends named Benjamin Mangitung, Justinus Tan, and Juda Mangitung. They saw the mangrove forest area in Mangunharjo Village was full of rubbish and was not well maintained. It also caused unpleasant odors in the mangrove forest area, which made it called "kali banger" by the surrounding community or in Indonesian means "Sungai Bau" (unpleasant odor river). Therefore, those three people established mangrove ecotourism, which named after those three people, to beautify the mangrove forest and to utilize the mangrove forest resources. This research was conducted to analyze the management of the Bee Jay Bakau Resort ecotourism area.

Research Methods

The research method used was qualitative by employing interviews, observation, and documentation in collecting the data. The data of primary and support activities were analyzed by value chain data analysis. The primary activity consisted of inbound logistics, operations, outbound logistics, marketing and sales, and services. Meanwhile support activities were firm infrastructure, human resources management, technological development, and procurement.

Results and Discussion

Value chain analysis in Bee Jay Mangrove Ecotourism

Bee Jay Bakau Resort (BJBR) ecotourism value chain had three stages, namely: identification of the value chain, identification of driver's cost, and development of competitive excellence. According to

Suhartini and Evi (2014), the steps in identifying value chain are as follows:

- a. Identifying the value chain activities and separating activities or operations at a business endeavor into several business activities by grouping the activities of the process into primary or supporting categories.
- b. Identifying cost drivers in each value activity, which aims to identify business activities that have both current and potential cost advantages.
- c. Developing competitive advantage by reducing costs or adding value in which entrepreneurs must determine the nature of potential and current competitive advantages by studying the identified value activities and cost drivers.

The value chain in BJBR Probolinggo ecotourism in Mayangan Subdistrict, Probolinggo, had two concepts, namely environmental conservation and tourism that became ecotourism term in the following discussion:

The BJBR Probolinggo ecotourism business value chain divided into two activities, namely primary activity, and support activity, wherein each activity would be identified again into the sub-activity activity. According to Wulandari (2017), some of the activities included in the first main activity are inbound logistics. It is an activity that includes input into products starting from handling raw materials to warehousing. The second activity involved the method of converting inputs into finished products like computer operation. The third was outbound logistics in which the activity related to processing orders and product distribution to customers. The fourth was marketing and sales that influence consumers to be able to buy products easily, which was related to market identification. The last was services to maintain the value or image of the product, such as installation, price adjustments, and others.

Primary activity (primary activity) in the BJBR Probolinggo ecotourism value chain divided into five stages, where each stage had different business activities even at the same stage. The five stages were BJBR Probolinggo ecotourism inbound logistics, operations in BJBR Probolinggo ecotourism, outbound logistics of BJBR Probolinggo ecotourism, BJBR Probolinggo ecotourism marketing and sales, and services at BJB Probolinggo ecotourism.

According to Acharyulu *et al.* (2015), support activity (secondary activity) is an indirectly involved activity in the conversion process but support primary activities in their functions. Support activity in

the BJBR Probolinggo ecotourism value chain divided into four stages. There were several different activities at each level for various business areas, although at the same stage. Support activities in the BJBR Probolinggo ecotourism business consisted of procurement of BJBR Probolinggo ecotourism needs, BJBR Probolinggo ecotourism development technology, BJBR Probolinggo ecotourism human resources management, and BJBR Probolinggo ecotourism firm (Fig. 1).

Primary Activity

The primary activity in the BJBR Probolinggo Ecotourism value chain distinguished into five stages, where at each stage for different business fields, they had several different activities, albeit at the same stage.

a. Inbound Logistics

According to Cynthia (2016), Inbound Logistics is an activity involving purchasing, receiving, storing, and managing raw materials from suppliers that will be used for the production process. *Inbound logistics* Ecotourism BJBR in Probolinggo conducted as follows:

Receiving, Storing and Distributing of raw materials

The materials used for building materials and food-stuffs obtained from other parties. Coconut trees that are no longer productive, for wood building purchased from Sulawesi Island. In this case, food-stuffs referred to seafood with the highest quality fish caught by Mayangan Fishermen and stored in the restaurant. Meanwhile, freshwater fish were kept alive and displayed in aquariums in the restaurants.

Mangrove Procurement

The mangroves in BJBR came from the natural estuary of Banger River that resulting from environmental used. The procurement of mangrove conservation was a collaboration between BJBR with the Department of Forestry Probolinggo. Also, BJBR managed new mangroves by moving the scattered and blown mangroves and placing them properly, so that mangroves could grow regularly.

Operations

According to Widodo (2008), the operation involves converting inputs into finished products such as

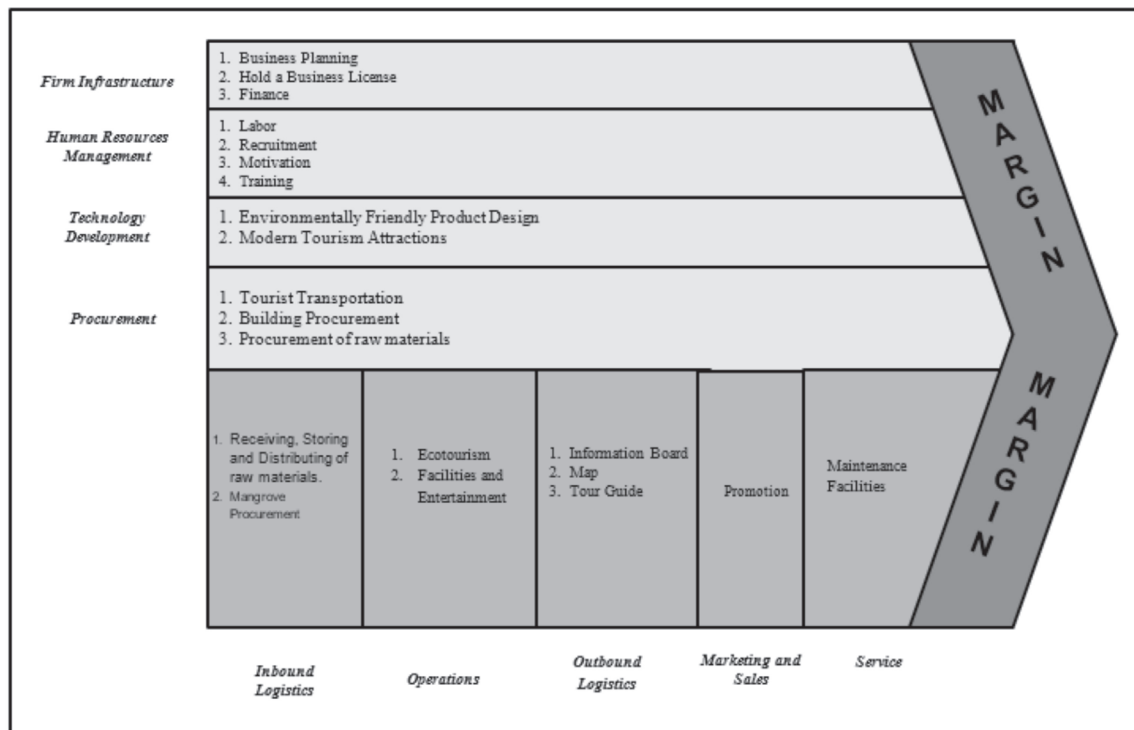


Fig. 1. Value Chain in BJBR Probolinggo

machining, packaging, equipment maintenance, and maintenance. In operational activities, expenses are mostly used for user-friendly technology, a broad line of offered products, and the company's vision to make sustainable improvements based on the learning process.

Operational activities related to the implementation of the BJBR Probolinggo Ecotourism consists of:

Ecotourism

The programs offered by BJBR Probolinggo Ecotourism were education on mangrove forests, tides of the coast, and its ecosystem, which could be explained as follows:

Entrance Ticket

Tourists needed to pay for entrance ticket payments to enter BJBR gate. The entrance ticket counters were near to the tourist entrance. Lockets were guarded on weekdays by a locker and on weekends by two lockers. The price of BJBR entrance ticket was Rp. 30,000 on a weekday, Rp. 50,000 on the weekend, and Rp. 60,000 on national holidays. Visitors could enjoy the attractions of BJBR ecotourism freely by bringing purchased tickets. The parking fee for motorbikes was Rp. 3000, the car was Rp. 5000, minibus Rp. 15,000 and Bus Rp. 25,000. The management of BJBR gave special offers to the local tourists by giving a 50% entrance ticket discount for residents of Probolinggo City and a 25% discount for residents of Probolinggo Regency. To get the discount, they needed to bring their ID card copy. The discount was valid only on weekends and on weekdays, and not on national holidays.

Cleanliness

The cleanliness of the tourist area must be considered in managing tourism. BJBR had approximately 45 house keepers (HK) to maintain the cleanliness of tourist areas. The housekeepers were responsible for organizing cleanliness, neatness, and environmental beauty. To maintain the cleanliness, the manager provided approximately 100 trash bins throughout the tourist sites in order to raise the visitors' awareness in keeping the environment clean.

Safety

Tourism safety commanded by three security team. The total number of security forces was 16 people in total. They had three shifts. Each shift had one team commander. A briefing was always held at the be-

ginning of each shift to ascertain the readiness of the security staff. To maintain safety at night, they patrolled to control the situation every hour. Before closing hours (22.00 WIB), the security always checked whether there were still visitors inside BJBR or not. So far, the situation at BJBR had always been safe.

Facilities and Entertainment

The facilities in the BJBR Probolinggo Ecotourism included:

Mosque

BJBR had a reasonably large mosque built above the sea called Musholla Nurul Bahar, which means "Light above the sea." Musholla Nurul Bahar had separate toilet facilities for men and women. It also had six faucets to facilitate tourists who wanted to take Wudhu before praying. The mosque building design resembles a sailboat above the sea that becomes its uniqueness, and its lights shine beautifully bright at night.

Toilets

BJBR had clean toilets in artificial rides, in mangrove forests, in mosques, and in BJ Mart Kuda Wilaha, respectively. The BJBR management concerned about environmental conditions surround it by not throwing the residual soap directly into the sea, but they keep it in septic tank containers to be suck up later when it is full.

Bungalows

BJBR had 14 lodgings for tourists, which are also called bungalows, which divided into three types, namely EXE (Executive), JS (Junior Suite), and GH (Griya Hinggil). There were three EXE bungalows, seven JS Bungalows, and four GH bungalows. Each type of bungalow has a different rental price, Rp. 950,000 for EXE bungalows, Rp. 1,350,000 for JS bungalows, and Rp. 5,000,000 for GH bungalow. The price of the bungalow was adjusted to the size of the room or the facilities provided.

Restaurant

BJBR had a restaurant with quite a luxurious atmosphere and menu. The restaurant is named rest o- tent, which means the restaurant under the tent. The food and beverages at the restaurant were cooked and made by several professional chefs. This restaurant provided food with a varied and exciting

menu. The food menu was based on marine products such as shellfish, shrimp, crabs, fish, and eels. Some of the menus are crab corn soup, Singapore shrimp sauce, squid Padang sauce, ax shellfish, super crab, Hongkong style grouper fish, and others. The Rest - O- tent also provides several packages for office events, study tours, and seminars. It also had entertainment facilities such as billiards and live music stage.

Mini market

BJBR had two mini markets, namely BJ Mart and BJ Mart Cipta Wilaha. The mini-market provides various snacks, drinks, and Probolinggo local snacks. The tourists could buy souvenirs at both places with different prices.

Universal ATM

As well-known ecotourism, BJBR provided universal ATM facilities. The universal ATM located next to the reception and close to the parking lot. The universal ATM was beneficial for tourists who suddenly ran out of cash, so there was no need to look for ATMs outside the tourist sites.

Healthcare Center

Healthcare Center is an essential facility in tourist attractions for providing first aid if there is an illness or accident while enjoying the tourist rides. The typical accident experienced by visitors was splinting by coconut tree wood, which used as a bridge. On the weekend, the BJBR management collaborated with the local PMI in order to provide health services and prevented an unwanted accident. On weekdays, it would be handled by the healthcare management team.

Trash Bins

Providing trash cans is one of the essential facilities for tourist attractions, especially ecotourism. It because environmental cleanliness becomes the main concern that must be maintained by ecotourism managers. In this case, BJBR was very concerned about the environment by providing approximately 100 trash bins throughout the BJBR area. It helped the tourists disposing of the trash in the provided bin easily, so it does not pollute the environment.

Outbound Logistics

The handling of finished goods, which still could be ordered according to the number of requests and

the design of production volume (planing production volume), does not generate an output to store products in the room, according to Situmorang (2017). The handling of finished products is not allowable. Outbound logistics in BJBR referred to BJBR ecotourism services, such as:

Information Board

BJBR ecotourism in Probolinngo always provided information board at each point containing information of facilities like mini market, selfie-spot, and directions to guide the tourist.

Map

The big map of BJBR Probolinggo located in the parking lot to guide the tourist with information of location and attractions in BJBR Probolinggo.

Tour Guide

Packages with tour guides were not displayed in the ticket price information, but these packages were usually available for specific groups such as school children tour groups. The task of the tour guide was directing a tour group and gave detailed information about the BJBR Probolinggo ecotourism.

Marketing and Sales

Marketing and sales activities, according to Cynthia (2016), are reaching new customers and manage company relations with existing customers to enhance company products sales.

Marketing and Sales in the BJBR Probolinggo Ecotourism involved the promotion process that consists of active and passive promotions. Active promotion means providing promotional facilities in the form of printed such as promoting in newspapers and magazines, and electronic media, such as television, radio, and social media (Instagram, Facebook, WhatsApp, and Twitter). The management of marketing media was carried out by the IT division and the marketing division. The IT division designed the images to be uploaded, while the marketing division disseminates the promotion to the public. The most efficient and effective media was using social media to reach the community. The passive promotion came from uploaded photos in tourists' social media that indirectly promoted the BJBR Ecotourism.

Services

According to Friska (2010), service activities include

different activities such as installation, repair of spare parts distribution, and upgrading, one of which may be a significant source of competitive excellence or weaknesses. The managers needs to be thorough in “decomposing” what occurs in various activities that can be evaluated and not set in specific and general categories. The condition of services and equipment in top condition enables optimum operation. In a company, facilities and infrastructure are an essential element that needs to be maintained in order to continue functioning as it should.

In this case, the manager of the ecotourism BJBR always checks the existing facilities and infrastructure, and will immediately repair it if it is broken or malfunction. One of the facilities that must always be checked was the wooden bridge built above the shoreline. According to a worker, a wooden bridge must be checked every day and must be replaced if it was damaged. By doing so, the safety of visitors can be guaranteed due to the nature of wood that is easily weathered when exposed to heat and rain.

Support Activity

Supporting activities of the value chain in BJBR ecotourism divided into four stages. There were several different activities at every stage for various areas of business although they are at the same stage.

a. Firm Infrastructure

According to Cynthia (2016) Firm infrastructure is a required activity for the company’s operational activities to run smoothly. Firm infrastructure reflects the company’s control system, formal reporting structure, information system and corporate culture. Firm infrastructure in BJBR Probolinggo ecotourism were:

1. Business Planning

BJBR Ecotourism (Bee Jay Bakau Resort) has a vision, namely: “Turning waste into gold”. BJBR breakdowns the vision into several missions as follows:

- Be one of edu-tourism to educate students love the environment,
- Become a culinary tourism that serves a variety of seafood and various snacks from processed mangrove plants.
- Become an exclusive family tourism with nuances of tidal beaches and its diversity of flora and fauna.

- Become a research center for domestic and foreign students and researchers.

The vision of BJBR Probolinggo is being the biggest and the most integrated and complete Mangrove ecotourism in Indonesia. To realize the visions, BJBR is planning to:

- build hotel
- add mini market
- revive the attractions
- built a seafood restaurant
- revitalize the facilities
- form the structure organization

Hold a Business License

Ecotourism BJBR Probolinggo possessed permission of Land Management Rights from Probolinggo Municipality. Ecotourism Probolinggo BJBR also collaborated with Forestry affairs and Tourism department related to mangrove forests approval.

Finance

BJBR Probolinggo had virtuous financial and accounting systems that recorded all the cash flow thoroughly. The company’s infrastructure had been accompanied by a budget plan to make it ran effectively.

Human Resources management

Human Resources Management (HRM) plays a pivotal role in managing activities related to recruiting, hiring, training, development, and compensation for all personnel (Hendri, 2017). HRM are responsible for the mechanism of recruiting, developing, and maintaining the effective employees; building good relationships with the employee union; creating high quality office life to optimize work and minimize the absence; and giving appreciation and incentive to motivate the workers. HRM in BJBR Probolinggo consisted of:

1. Labor

The number of workers who worked in Probolinggo BJBR Ecotourism were 107 people. Human resource management applied to Probolinggo BJBR Ecotourism had structured appropriately. Each labor had respective job descriptions and responsibilities.

2. Recruitment

BJBR Probolinggo recruited the local residents of Probolinggo City in hope to motivate the locals in developing their city. The recruitment was open when there was vacant position.

Motivation

Factors affecting the labors' motivation in BJBR Ecotourism Probolinggo were salaries, sense of hometown belonging, comfortable environment, working with people from the same area, and daily motivation given in briefing. Furthermore, the good communication between the head of Human Resource Management and the labors in BJBR reduce misunderstanding at work and create a solid teamwork.

Training

Both new and existing employees will get training based on their job description which directed by respective head division. It aimed to improve their professional skills.

Technological development

According to Wulandari (2017), technology development aims to develop technology in improving value chain activities, for example, product research and development, information technology development, and others. Technology development in the BJBR Probolinggo ecotourism combined modern and traditional technology. The technology developed used an environmentally friendly design with modern tourist attractions.

Environmentally Friendly Product Design

The environmentally friendly technology used in the BJBR Probolinggo ecotourism used environmentally friendly raw materials, in this case, coconut wood. Eighty percent of buildings, offices, cafes, minimarkets, and bridges use coconut wood from Sulawesi. Coconut wood used was the unproductive one aged around 70-80 years. Also, the management of BJBR applied the environmentally friendly concept in toilet management by discharging of the excrement of wastewater and residual soap in septic tank containers that routinely sucked up when it is full.

Modern Tourism Attractions

BJBR Probolinggo ecotourism always follows the technology update that is modern and environmentally friendly. The modern technology applied in its unique mosque because it was designed resembling a sailboat and built above the sea. The modern concept also applied in BJBR bungalows that made from coconut wood. The Bungalows had a man-

grove forest and sea view. BJBR completed with two mini markets, namely BJ Mart and BJ Mart CiptaWilaha. The mini-market brought nature concept for its building design.

d. Procurement

Widodo (2008) describes procurement (procurement) as a supervision of the possibility of defects in goods, as well as the company's ability to adjust the capacity of the resources needed. Procurement is a supporting activity for major activity. The procurement activity in BJBR Probolinggo were:

Tourist Transportation

Land Transportation

BJBR Ecotourism located in a suburban, but it was easily accessible for visitors. BJBR was very close to the Probolinggo train station, only about 1.5 km. Then the distance from the Banyu Angga terminal could be reached using online and offline motorcycle taxi or public transportation with approximately 10-15 minutes' journey.

Sea Transportation

BJBR Ecotourism located in a strategic coastal area that could be reached from the sea lane. BJBR is close to Probolinggo City Harbor and Probolinggo City Beach Fishery Port, and Cruise ships commonly stopped by once in 3 months in BJBR.

Building Procurement

The building was an essential supporting facility in the BJBR Probolinggo ecotourism such as offices, restaurants, and bungalows building. The procurement of buildings, in this case, used approximately 80% of coconut wood imported from Sulawesi Island for building materials.

Procurement of raw materials

The raw materials in BJBR Probolinggo Ecotourism were supporting raw materials for cooking in restaurants, and for food and beverages in mini-markets. The restaurant at BJBR Probolinggo serves seafood, which ingredients are taken from Mayangan port with the best quality ingredients. The food and beverages in mini-markets are general product with guaranteed quality.

Conclusion

Based on the analysis of the value chain, the added

value obtained in the development of technology that combines environmentally friendly with modern technology became an attraction for national and international visitors.

This study suggested empowering the local community surround BJBR because the results from interviews showed that they had not had the significant impact of the BJBR existence. Another suggestion is to optimizing promotional strategies to attract more tourists.

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