

THE SUSTAINABILITY OF NAUTICAL SPORTS TOURISM IN TERENGGANU USING A COST BENEFIT ANALYSIS

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Abstract: Monsoon Cup is the flagship of nautical sport tourism that listed in the annual event on the Match Racing World Championship tour calendar. The fifth Prime Minister of Malaysia initiated this sport since 2005 and the event then reserved at Pulau Duyong, Kuala Terengganu for attracting sailors and tourists to visit Terengganu during the monsoon season in November every year. The significant contribution of this sport was the total tourist visited Terengganu has gradually increased from 3.16 million tourists (2011) to 3.37 million (2012), 4.03 million (2013) and 4.51 million (2014). Thus, it creates more advantages to Terengganu State Government and community in several aspects especially on tourism industry and economic opportunities (for instance, hotels, food supplies, souvenirs, etc). However, in 2015, the Monsoon Cup venue has been relocated to Johor Bharu as the Johor State Government became the new organiser. Due to this situation, Terengganu expects to lose several tourists together with business opportunities. Therefore, the objective of this paper is to select the most potential nautical sports tourism that can be proposed to the state government with the purpose of boosting both tourism and economy sustainability. A Cost Benefit Analysis (CBA) will be used in order to determine the relationship between the demand and supply of the examined nautical sports. CBA is actually a method that compares the costs and benefits of a sequence of action and can range from informal weighing of qualitatively described pros and cons to highly formal and technical method. On other hands, CBA also employs sophisticated mathematical and is grounded in economic theory. As a finding, there are six new potential nautical sports have been determined and the top three are ranked as follows: 1) parasailing, 2) flyboarding and 3) sailing activities. This paper contributes in suggesting new potential nautical sports to the state government which is in line with the state policy to enhance the tourism industry.

Keywords: Tourism industry, nautical sports, tourism sustainability, cost benefit analysis, marine tourism.

Introduction

Nautical tourism is a term that often used throughout the recent years when relates with some water sport activities. Generally, there is no specific definition to define the term nautical tourism that has been used internationally (Marušić, *et al.*, 2015). However, such term is often associated with several tourism activities such as marina tourism, yachting tourism, sailing tourism and leisure boating of varying scope (Ministry of the Sea, Transport and Infrastructure, Croatia, and Ministry of Tourism, Croatia, 2008).

In Mexico, nautical tourism is defined as a tourist product related with entertainment activities in contact with bodies of water, where many different nautical activities can take place and the main characteristic of nautical tourism is an ocean activity as its main product being offered to tourist (Tourism Shell Harbour, 2008). However, in some literatures, the term nautical tourism and marine tourism are likely considered to bring the similar meaning. But some authors were disagreed with the opinions as they defined nautical tourism as the activities that is for recreation, entertainment and sports

purposes in which involve boaters to stay in or out of nautical sports (Luković, 2012).

Besides, nautical tourism is also believed as a form of tourism attraction where instead of recreational navigation with accommodation on board, it may include other activities such as ocean and river cruising, water sports, surfing, fishing and squid jigging (Pavel-musteata & Simon, 2013). For example, in Croatia, nautical tourism is promoted as a type of tourism where the tourists can navigate using privately owned or rented vessel, which included overnight stay on board the vessel as the accommodation (Ministry of the Sea, Transport and Infrastructure, Croatia, and Ministry of Tourism, Croatia, 2008).

Nautical tourism is a rapid growing sector especially in European country such as Croatia, Italy, Portugal and Spain. The growth of nautical tourism has been expanding within recent years and very profitable sector. For example, in 2012, the cruise tourism alone had generated a direct turnover of €15.5 billion and employed 330,000 people in the European waters to support the sector (European Commission, 2014).

In accordance to the success of nautical tourism activities in several foreign countries, the idea of implementing the nautical tourism activities has arisen in Malaysia due to uniqueness of its places. For instance, in Terengganu, Malaysia, a high potential location to promote the nautical tourism activities due to its strategic geographical location on the east coast of Peninsular Malaysia and has high potential to be one of tourist's attraction places in Malaysia.

In addition, due to the long stretch of beaches alongside the area of Terengganu, it is very suitable for water-based activities especially in Kuala Terengganu which surrounded by nearby

island such as Kapas Island, Bidong, Redang, Perhentian and Lang Tengah Islands. Although, the district of Kuala Terengganu is smaller area in terms of size, it has the largest number of populations in Terengganu with population of 250,000 peoples in year 2000. Due to this reason, the demand and supply for water-based activities are relatively high and it is one of the main factors in order to propose these nautical sport events in Terengganu.

Previously, Monsoon Cup is one of the flagships of nautical sport tourism that is located at Pulau Duyung, Terengganu since 2005 until 2014. By organising this event, enormous benefits obtained by the local communities in terms of tourism and business opportunities for boosting their personal/family economy as one of alternative incomes during the monsoon season every year.

However, in year 2015, the Monsoon Cup event officially relocated to Johor as the main nautical sport organiser. Due to this situation, Terengganu expected to lose several tourists together with business opportunities (Abdullah *et al.*, 2015). This situation is troubling all parties especially the state government in order to sustain the tourism industry and to make Terengganu as one of the most interesting places to visit by local and international tourists. Table 1 shows the total number of tourists arrivals to Terengganu from 2011 until 2015. The relocated of Monsoon Cup to Johor caused the increment total number of tourist decrease drastically from 11.90% to 4.74%. Hence, the state government needs to solve this issue in order to sustain the tourism industry in Terengganu.

Therefore, the objective of this paper is to select the most potential nautical sports for Monsoon Cup replacement in order to sustain

Table 1: Number of tourist arrivals to Terengganu
Source: Unit Perancangan Ekonomi Negeri Terengganu (UPEN), 2016

Years	Number Local Visitors	Number of Foreign Visitors	Total	Increment (%)
2011	2,587,735	578,476	3,166,211	12.47
2012	2,768,876	607,399	3,376,275	10.67
2013	3,229,704	807,426	4,037,130	19.57
2014	3,763,311	754,470	4,517,781	11.90
2015	3,881,863	849,831	4,731,694	4.74

the nautical sport tourism in Terengganu. Six possible nautical sport activities are identified in order to replace the Monsoon Cup by comparing the nautical sport activities in other regions (Europe and Asia) that have high potential of nautical sport activities organizers with Malaysia based on a few elements. The outcome from this study will contribute to Terengganu state government by proposing the awareness of this replacement. In addition, it also enhances the tourism industry by attracting the local and international participants to join nautical sport tourism activities in Terengganu.

According to the findings, the top three nautical sport activities are identified based on the Net Present Value (NPV) which are parasailing, flyboarding and sailing.

Parasailing also known as parascending, is an activity where one person is towed behind a boat while attached with special design of a parachute (ABZ Travel, 2017). The boat then drives off, carrying the parascender for 10 to 12 minutes into the air. The number of persons to be carried can be two or three persons depending on the power of the boat. Moreover, parasailing offers the tourist a breath-taking bird's eye of the beautiful lagoon, island and beaches, making it one of the best things to do during vacations. In addition, apart from solo parasailing trips, group parasailing trips can also become the best to be undertaken (Sahni, 2016). Today, parasailing becomes one of the most popular activities across the globe. For instance, according to Sahni (2016), this type of water sports can be found in Copacabana (Rio de Janeiro, Brazil), Miami (Florida, USA), Cape Town (South Africa), Sydney Harbour (Australia), Hawaii (USA), Phuket (Thailand), Key West (Florida, USA), Kerala (India), Great Lakes (Michigan and Wisconsin, USA) and Bali (Indonesia).

The second most potential nautical activity is the flyboarding. Flyboarding is an innovative and unique water sports that allows the participant to fly over the water (Jetpack Adventures, 2016). It used special equipment known as the hydro flight device, which supplies propulsion to drive the flyboard into the air. According to Kinley (2014), flyboard operation

means an activity in which a flyboard is powered by a Personal Watercraft (PWC) through a hose connected and an instructor to create thrust to propel the flyboard through and out of the water controls it. This type of nautical activity has a great potential activity because the tourist can feel like a superhero when they area fly through and out of the water.

Sailing activity is the third highest potential after the parasailing and flyboarding. Sailing refers to the sport of using wind to power the sails and moving the boat forward rather than using the engine (MPORA, 2016). There are two types of sailing, which are racing and cruising. The Monsoon Cup was racing-based sailing. Even though the Monsoon Cup had relocated to Johor, but it still becomes one of the potential activities to be held in Terengganu. The state government in hosting the sailing activity in Terengganu where the state government could promote the cruising-based sailing can make a little change. Such activity is more relax and attracts more tourists to engage with the activity as the event allows the tourists to learn the basic technique of sailing using proper sailing boats instead of just watching the event run.

At the end of this study, all these identified nautical sport tourism activities will be proposed to Terengganu state government to replace Monsoon Cup as an annual nautical sport event in order to assist the state government for boosting both tourism and economy sustainability in Terengganu.

Nautical Sport Tourism

The United Nations World Tourism Organization (2012) describes that tourism industry becomes an important industry in United Kingdom. It is important to sustain this industry in order to increase the long-term benefits to local communities. To sustain the tourism industry, some critical components in local, regional and national economy need to be comprised. It is significant in order to create employment, increase domestic products and foreign exchange earnings (Abdul Halim, 2012). In addition, the sustainable of tourism

industry can lead to the management of all resources in a way that economic and social need. The term sustainable tourism covered the factors of ecotourism, green travel, environmentally and culturally responsible tourism fair trade and ethical travel.

In order to sustain the tourism industry in Terengganu, several potential nautical sport tourism activities are identified by considering both Europe continent and ASEAN main tourism cities as benchmark (Table 1). It seems that there are few similar activities suitable to be conducted in Terengganu as new potential nautical sports tourism for instance, the recreational, cruising, water sports events such as sailing championship and regatta that become annual activities for every region. This shows that Kuala Terengganu have a potential like other places.

The reason why Terengganu becomes the place that has high potential to be a nautical activities venue is because it has of about 244 kilometres (km) stretch of unpolluted and panoramic beach that extend from the district of Besut in the north to the district of Kemaman in the south (Terengganu Tourism, 2014). Due to the long stretch of beaches alongside the area of Terengganu, it is very suitable for water-based activities or nautical activities. On the other hands, Terengganu also surrounded by a few beautiful islands such as Perhentian, Redang, Lang Tengah, Bidong and Kapas Island which are famous for its water-based activities such as diving, snorkelling, kayak, fishing, jigging and sailing. Due to these reasons, Terengganu is one of the best places to conduct water-based activities with high potential to become main contributor for tourism industry in Malaysia.

Terengganu has several sources of incomes such as trading, service, tourism and culture, oil and gas, mineral and other sectors. Due to this reason, Terengganu became one of the main contributors in Malaysia GDP with 3.1% value that made up from five main economic sectors such as agriculture, manufacturing, construction, services, mining and quarrying (Department of Statistics Malaysia (2016).

According to Abdul Halim (2012), among all the states in Malaysia, Terengganu also is one of the important states that act as the biggest income generator in the tourism sector. For example, in 2014, tourism industry in Terengganu have contributed of about RM4.52 billion to the national Gross Domestic Product (GDP) and the Terengganu state government has put lot of effort in promoting Terengganu as one of the national tourism hub (Hassan, 2015). In addition, as stated by Menteri Besar Terengganu, Datuk Seri Ahmad Razif, the tourism sector will soon replace the oil and gas industry as the biggest contributor to Terengganu's economy. The main purpose of this matter is to reduce the dependencies on the oil and gas sector for state's economy (Bernama, 2017).

The focusing of Terengganu state in enhancing the tourism industry is due to the uniqueness of Terengganu with full of traditional cultural heritage, beautiful nature such as islands, waterfall, hot springs, unpolluted beaches and Monsoon Cup as one of the international nautical sport events that totally change the figure of tourism industry in Terengganu (Terengganu Tourism, 2014).

However, Monsoon Cup events are now officially moved to Johor since 2015 and Johor becomes the new main organizer for this event (Iskandar Online, 2016). All the international and local participants that also become of the main contributors of tourism industry in Terengganu move to Johor. There is a slightly decreasing of total number of tourists and this situation will give bad impact to the sustainability of tourism industry in Terengganu (Abdullah *et al.*, 2015).

In order to strengthen the tourism industry in Terengganu, the contribution of this study is to select the most beneficial nautical sports activity using Cost Benefit Analysis (CBA) technique that can be recommended to the Terengganu state government in order to replace the Monsoon Cup event as an annual event. In this study, six potential nautical sports are identified in order to replace Monsoon Cup events. All these six nautical sports are determined by comparing all the nautical activities that exist in

Table 2: Comparison of type of nautical activities

Type of Usage in Nautical Activities	Terengganu (including Pulau Kapas)	European Continent (France, Spain, Italy and Croatia)	ASEAN Main Nautical Tourism Cities (Langkawi, Phuket, Pataya)	Sources
Recreational boating (Sailing Boat)	<ul style="list-style-type: none"> • Recreational island tour sailing (Pulau Duyong to Pulau Kapas) • Catamaran leisure services (Pulau Duyong) 	<ul style="list-style-type: none"> • Recreational island tour sailing • Multi type of leisure boat services • Boat rental services 	<ul style="list-style-type: none"> • Recreational island tour sailing • Multi type of leisure boat services • Boat rental services 	<p>1. Shell Cove Tourism, 2008</p> <p>2. Lukovic, 2012)</p>
Passenger Vessels (Cruisers)	<ul style="list-style-type: none"> • Local river cruisers (Sungai Terengganu) • Island hopping cruise services (Small size of vessel with capacity 12-30 passengers) 	<ul style="list-style-type: none"> • Local river /coastal cruisers • Coastal cruise services (Small to very large type ocean going size of vessel. Capacity: Up to 1600 passengers) 	<ul style="list-style-type: none"> • Multi type of cruisers • Coastal and inter island cruise services (Small to large type ocean going size of vessel. Capacity: Up to 300 passengers) 	
Water Sports Event (Main Annual Sailing Activities)	<ul style="list-style-type: none"> • National Sailing Regatta • Monsoon Cup (until 2014) • Pulau Kapas International Swimming challenge (annual event) 	<ul style="list-style-type: none"> • Sailing (series of national and international regattas, keel boat sailing championships) 	<ul style="list-style-type: none"> • Royal Langkawi International Regatta • Top Of the Gulf Regatta (Pataya) • King Cup Regatta (Phuket) 	
Water based recreational activities	<ul style="list-style-type: none"> • Diving (Kapas Island) • Surfing (pantai batu burok) • Fishing (river and coastal fishing) • Jigging 	<ul style="list-style-type: none"> • Diving • Surfing • Stand Up Paddle Board • Fishing 	<ul style="list-style-type: none"> • Diving • Surfing • Stand Up Paddle Board • Fishing 	
Maritime history	<ul style="list-style-type: none"> • Marine park • Maritime Museum 	<ul style="list-style-type: none"> • Marine park • Maritime Museum • Archaeology Centre 	<ul style="list-style-type: none"> • Marine park • Maritime Museum 	
Education	<p>1. Marine Research Institutes Example: Universiti Malaysia Terengganu; RANACO, ALAM, NMIT etc.</p> <ul style="list-style-type: none"> • Other Educational centres (Public and Private) 	<p>2. Sailing schools</p> <p>3. Maritime Academy</p> <p>4. Research institutes</p> <p>5. Maritime Universities and Educational centres</p>	<p>6. Sailing schools</p> <p>7. Maritime Academy</p>	
Land based component (Harbours / marina)	<ul style="list-style-type: none"> • Cafe, resorts, restaurant and hotels • World Class Marina Facilities in Pulau Duyong 	<ul style="list-style-type: none"> • Numbers of café, resorts, restaurant and hotels • World class marina facilities • World class port and yacht facilities 	<ul style="list-style-type: none"> • Numbers of café, resorts, restaurant and hotels • World class marina facilities • World class port and yacht facilities 	
Shipyard	<ul style="list-style-type: none"> • Shipbuilding of small sailing vessels 	<ul style="list-style-type: none"> • Shipbuilding of mega-yachts • Shipbuilding of small sailing vessels 	<ul style="list-style-type: none"> • Shipbuilding of mega-yachts • Shipbuilding of small sailing vessels 	
Others	<ul style="list-style-type: none"> • Information services • Production of equipment for nautical tourism 	<ul style="list-style-type: none"> • Information services • Production of equipment for nautical tourism • Robinson Crusoe tourism • Lighthouse tourism 	<ul style="list-style-type: none"> • Information services • Production of equipment for nautical tourism 	

other regions in the world that has high potential to be the most interesting place to visit due to their nautical activities. Through this study, Cost Benefit Analysis (CBA) technique is used in the study in order to select and propose the new nautical sport activities that have high potential to replace Monsoon Cup in order to sustain the tourism industry in Terengganu. The detail on fundamental of CBA will be explained in Section 3 (Methodology).

Methodology

Cost Benefit Analysis (CBA) is a methodical and logical approach that is widely used in evaluating economic, which offers a rigorous approach in assessing the economic viability of investment proposals. It is used in various types of projects across several sectors and assists the decision-makers to justify investment choices (Building Queensland, 2016). In addition, this method is a common business planning tools that compare the likely costs and benefits of potential projects in order to choose the most suitable projects that generate the greatest net benefit (Hamel, 2017). Hence, in this study this method will identify the most suitable nautical sport with high potential to replace the Monsoon Cup Events by comparing which activities have the greatest net benefits to State of Terengganu.

According to Brussel (2014), CBA is based on a set of predetermined project objectives, giving a monetary value the entire positive (benefits) and negative (costs) welfare effects of the intervention. The overall monetary performance is measured by the indicators namely Net Present Value (NPV). All these values will make the CBA to allow in comparability and ranking for competing projects or alternatives in order to determine the projects are worth to be done or not.

The main purpose of using CBA is to identify the most beneficial potential nautical activities which possibly can replace the Monsoon Cup event since it is already been relocated to Johor. Finally, the potential nautical activities are identified based on the calculated

Net Present Value (NPV) by using discount rates of 3%, 7% and 10%. The calculated NPV will rank the potential nautical activities by giving the highest value of NPV. The Net Present Value (NPV) of each potential nautical activity is calculated based on Equation 1:

$$NPV = \sum_{t=0}^T (B_t - C_t) / (1 + r)^t \quad (1)$$

Where

B_t = the benefit at time t

C_t = the cost at time t

R = the discount rate

t = the year

T = number of years over which the future costs or benefits are expected to occur.

In general, Equation 1 can be translated into a simple form as shown in Equation 2:

$$NPV = PV(B) - PV(C) \quad (2)$$

Where,

PV (B) = the present value of benefits

PV (C) = the present value of costs

Based on Equation 2, this method represents differences between total discounted benefits minus total discounted costs, which gives the Net Present Value of a project. Projects with positive net benefits consider as viable and a project with a higher NPV compared with another project with a lower NPV, which measured to be less lucrative. In other words, the higher the NPV, the greater the calculated benefits of the project (PAHO, 2017).

In this study, CBA helps to guide the decision makers to measure the cost and benefit of the investment's impacts on the development of nautical tourism sector in Terengganu. It is also a valuable method as it produces comprehensive results (Henrichson & Rinaldi, 2014). Further detailed information of CBA can be found in the following literature surveys, Doraszelski (2001), Boardman (2006), Park (2014) and Ross (1995).

Cost criterion contains of four elements, which are: 1) Fixed Cost (FC), 2) Indirect Cost (IC), Variable Cost (VC) and Direct Cost (DC).

Each of element has a minimum number of two and a maximum number of five sub-elements. Meanwhile, benefit criterion contains of five elements, which are: 1) event, 2) lesson, 3) membership, 4) rental and 5) ticket pass. The description of all costs can be referred to table 3.

Table 3: Cost description

Category	Details
Fixed Cost (FC)	<ul style="list-style-type: none"> • Insurance • Labour • Lease (Office and Storage) • License • Tax
Indirect Cost (IC)	<ul style="list-style-type: none"> • Advertising • Computing • Maintenance • Security • Supervision
Variable Cost (VC)	<ul style="list-style-type: none"> • Energy Usage • Labour • Production • Recruitment • Training
Direct Cost (DC)	<ul style="list-style-type: none"> • Assets • Equipment

Generic Methodology

Step 1: Determine the Goal

The goal of this study is to select the most potential nautical tourism activities in Terengganu, Malaysia that can boost both tourism and economic sustainability for replacing the Monsoon Cup event.

Step 2: Data Collection

An analytical data has been used for this study. The value for the total cost and benefits are obtained from the price of market trends, provided by the organization that supply all the required equipments (expert's opinion) in Malaysia to carry out these activities. For instance, the total cost can be categorized as operational cost including the labour, license, equipment, maintenance, security and etc. All the total cost are listed for each type of activities. Meanwhile, the total benefits include the fees, membership, lesson class, etc. All listed cost and benefits are linked to the process efficiency

to organize the nautical sports events (Lohrey, 2017).

Step 3: Data Analysis

The data collected are analyzed by using the cost and benefit analysis in order to find out the most potential nautical tourism activities in Terengganu. After collecting the raw data for this particular nautical sport, the data analysis was conducted by considering all the cost such as Fixed Cost (FC), indirect cost, Variable Cost (VC) and direct cost together with benefit that include the entire potential future occurrence when conducting the activities. The net benefit was gained by differences of the benefits and costs (Benefit – Cost = Net Benefit). In order to be emphasis in the calculation process, the changes of cost and benefits in each year are assessed by using the discount rates of 3%, 7% and 10%. Afterward, the Net Present Value (NPV) is computed for each identified potential nautical sport activities.

Finding

The potential nautical activities are obtained by comparing the current nautical activities available in other nautical countries in European waters such as France, Italy and Spain with Kuala Terengganu (refer Table 1). These comparisons are based on the similarity of nautical activities in all these countries to verify the suitability of activities to be operated in Kuala Terengganu. All the data used in this stage are obtained directly from analytical data.

A case study in selecting the most potential nautical tourism activities is conducted using the cost and benefit analysis. To ensure the equality across the year, monetary values are described in the present value terms. Hence, the realistic cost and benefits are evaluated with the consultation of market trends and industrial surveys from the service providers in the nautical tourism events in Malaysia (Plowman, 2014).

Table 4 until 9 show the summarized results of the Net Present Value calculated using equation as shown in Section 3 (Methodology).

Table 4 describes the total value of NPV for flyboarding activities. It shows that by giving a discount rate in 3%, flyboarding activities can possibly become a potential activity to be proposed in Terengganu due to the highest NPV RM 1,914,153.49 compared to 7% and 10% discount rates.

Table 5 shows that Net Present Value (NPV) for kitesurfing activity which comes out with three different values based on three different discount rate. It shows that the highest NPV is RM246,743.12 by discount rate of 3%. Possibly, organizing of kitesurfing activity by 3% discount rate giving by the services provider are the most potential activity among 7% and 10% discount rate.

Table 6 shows that the results of CBA for parasailing activities for five different years. It

seems that the highest NPV for this activity is RM 2,550,113.88 by giving 3% discount rate, followed by 7% and 10% discount rates, which have the values of NPV RM2,306,409.09 and RM2,145,844.44 respectively.

Table 7 describes that, among these three NPV for sailing activity, the value in 3% discount rate is the highest with RM1,090,195.47, followed by 7% and 10% with RM971,045.51 and RM892,543.68 and all the value of NPV is positive value, which means that all these activities are beneficial activities and worth.

Table 8 shows the calculated NPV for the wakeboarding activity. The results based on CBA, the NPV for 3% discount rate is the highest compared to the others, which has the value of NPV RM684,823.98, followed by 7%

Table 4: Flyboarding Net Present Value

Year	Costs	Benefits	Net Benefit	Discount Rate					
				3%		7%		10%	
				Discount Factor	Present Value	Discount Factor	Present Value	Discount Factor	Present Value
0	RM187,940.00	RM0.00	-RM187,940.00	1	-RM187,940.00	1	-RM187,940.00	1	-RM187,940.00
1	RM130,240.00	RM695,760.00	RM565,520.00	0.970874	RM549,048.54	0.934579	RM528,523.36	0.909091	RM514,109.09
2	RM130,240.00	RM695,760.00	RM565,520.00	0.942596	RM533,056.84	0.873439	RM493,947.07	0.826446	RM467,371.90
3	RM130,240.00	RM695,760.00	RM565,520.00	0.915142	RM517,530.91	0.816298	RM461,632.78	0.751315	RM424,883.55
4	RM130,240.00	RM695,760.00	RM565,520.00	0.888487	RM502,457.20	0.762895	RM431,432.50	0.683013	RM386,257.77
Net Present Value (NPV)					RM1,914,153.49		RM1,727,595.71		RM1,604,682.31

Table 5: Kitesurfing Net Present Value

Year	Costs	Benefits	Net Benefit	Discount Rate					
				3%		7%		10%	
				Discount Factor	Present Value	Discount Factor	Present Value	Discount Factor	Present Value
0	RM88,896.00	RM0.00	-RM88,896.00	1	-RM88,896.00	1	-RM88,896.00	1	-RM88,896.00
1	RM77,680.00	RM167,976.00	RM90,296.00	0.970874	RM87,666.02	0.934579	RM84,388.79	0.909091	RM82,087.27
2	RM77,680.00	RM167,976.00	RM90,296.00	0.942596	RM85,112.64	0.873439	RM78,868.02	0.826446	RM74,624.79
3	RM77,680.00	RM167,976.00	RM90,296.00	0.915142	RM82,633.63	0.816298	RM73,708.43	0.751315	RM67,840.72
4	RM77,680.00	RM167,976.00	RM90,296.00	0.888487	RM80,226.83	0.762895	RM68,886.39	0.683013	RM61,673.38
Net Present Value (NPV)					RM246,743.12		RM216,955.63		RM197,330.17

and 10% discount rates with RM612,813.57 and RM565,369.59.

Table 9 shows the calculated NPV for windsurfing activity. The highest NPV are in 3% discount rate with RM106,680.56,

followed by 7% and 10% discount rates with RM88,217.44 and RM76,053.03. This shows that windsurfing activity with 3% discount rate is the most potential activities to be organized in Terengganu for this category.

Table 6: Parasailing Net Present Value

Year	Costs	Benefits	Net Benefit	Discount Rate					
				3%		7%		10%	
				Discount Factor	Present Value	Discount Factor	Present Value	Discount Factor	Present Value
0	RM195,900.00	RM0.00	-RM195,900.00	1	-RM195,900.00	1	-RM195,900.00	1	-RM195,900.00
1	RM136,000.00	RM874,752.00	RM738,752.00	0.970874	RM717,234.95	0.934579	RM690,422.43	0.909091	RM671,592.73
2	RM136,000.00	RM874,752.00	RM738,752.00	0.942596	RM696,344.61	0.873439	RM645,254.61	0.826446	RM610,538.84
3	RM136,000.00	RM874,752.00	RM738,752.00	0.915142	RM676,062.73	0.816298	RM603,041.69	0.751315	RM555,035.31
4	RM136,000.00	RM874,752.00	RM738,752.00	0.888487	RM656,371.58	0.762895	RM563,590.36	0.683013	RM504,577.56
Net Present Value (NPV)					RM2,550,113.88		RM2,306,409.09		RM2,145,844.44

Table 7: Sailing Net Present Value

Year	Costs	Benefits	Net Benefit	Discount Rate					
				3%		7%		10%	
				Discount Factor	Present Value	Discount Factor	Present Value	Discount Factor	Present Value
0	RM252,361.00	RM0.00	-RM252,361.00	1	-RM252,361.00	1	-RM252,361.00	1	-RM252,361.00
1	RM124,672.00	RM485,856.00	RM361,184.00	0.970874	RM350,664.08	0.934579	RM337,555.14	0.909091	RM328,349.09
2	RM124,672.00	RM485,856.00	RM361,184.00	0.942596	RM340,450.56	0.873439	RM315,472.09	0.826446	RM298,499.17
3	RM124,672.00	RM485,856.00	RM361,184.00	0.915142	RM330,534.53	0.816298	RM294,833.73	0.751315	RM271,362.89
4	RM124,672.00	RM485,856.00	RM361,184.00	0.888487	RM320,907.31	0.762895	RM275,545.54	0.683013	RM246,693.53
Net Present Value (NPV)					RM1,090,195.47		RM971,045.51		RM892,543.68

Table 8: Wakeboarding Net Present Value

Year	Costs	Benefits	Net Benefit	Discount Rate					
				3%		7%		10%	
				Discount Factor	Present Value	Discount Factor	Present Value	Discount Factor	Present Value
0	RM126,574.00	RM0.00	-RM126,574.00	1	-RM126,574.00	1	-RM126,574.00	1	-RM126,574.00
1	RM96,544.00	RM314,832.00	RM218,288.00	0.970874	RM211,930.10	0.934579	RM204,007.48	0.909091	RM198,443.64
2	RM96,544.00	RM314,832.00	RM218,288.00	0.942596	RM205,757.38	0.873439	RM190,661.19	0.826446	RM180,403.31
3	RM96,544.00	RM314,832.00	RM218,288.00	0.915142	RM199,764.44	0.816298	RM178,188.03	0.751315	RM164,003.01
4	RM96,544.00	RM314,832.00	RM218,288.00	0.888487	RM193,946.06	0.762895	RM166,530.87	0.683013	RM149,093.64
Net Present Value (NPV)					RM684,823.98		RM612,813.57		RM565,369.59

Table 9: Windsurfing Net Present Value

Year	Costs	Benefits	Net Benefit	Discount Rate					
				3%		7%		10%	
				Discount Factor	Present Value	Discount Factor	Present Value	Discount Factor	Present Value
0	RM101,358.00	RM0.00	-RM101,358.00	1	-RM101,358.00	1	-RM101,358.00	1	-RM101,358.00
1	RM88,896.00	RM144,864.00	RM55,968.00	0.970874	RM54,337.86	0.934579	RM52,306.54	0.909091	RM50,880.00
2	RM88,896.00	RM144,864.00	RM55,968.00	0.942596	RM52,755.21	0.873439	RM48,884.62	0.826446	RM46,254.55
3	RM88,896.00	RM144,864.00	RM55,968.00	0.915142	RM51,218.65	0.816298	RM45,686.56	0.751315	RM42,049.59
4	RM88,896.00	RM144,864.00	RM55,968.00	0.888487	RM49,726.84	0.762895	RM42,697.72	0.683013	RM38,226.90
Net Present Value (NPV)					RM106,680.56		RM88,217.44		RM76,053.03

Figure 1 summarizes the NPV of all the six potential nautical sport activities in Terengganu. According to the CBA calculation, parasailing becomes the most suitable nautical sport tourism in Terengganu that can be proposed to the state government for boosting tourism and economy sustainability as well as replacing the Monsoon Cup event. The discount rates used in this calculation are 3%, 7% and 10%. Each of the potential activity is calculated up to four years of operating and the NPV for each year is calculated respectively. The highest estimation NPV is RM2,550,113.88 for 3% discount rate, followed by RM2,306,409.09 for 7% discount rate and RM2,145,844.44 for 10% discount rate. Even the smallest costs activity such as kitesurfing has the NPV of RM197,330.17 for 10% discount rate, RM216,955.63 for 7% discount rate and RM246,743.12 for 3% discount

rate. By considering the future benefit that can be obtained by operating these activities, the prospect for these activities deemed to be highly potential.

Figure 2 shows the rank of potential nautical sport activities from the highest to the lowest profits is as follows: 1) parasailing, 2) flyboarding, 3) sailing, 4) wakeboarding, 5) kitesurfing and 6) windsurfing. It is found that parasailing activity possessed the highest profit margin RM678,852 compared to the other activities followed by flyboarding activities with profit of RM507,820. They both surpassed the other by significant margin. Although kitesurfing and windsurfing activities has the least cost to operate, the profit margin for these two activities are the least compared to the other activities. The profit/revenue is gained by subtracted of cost from the benefits.

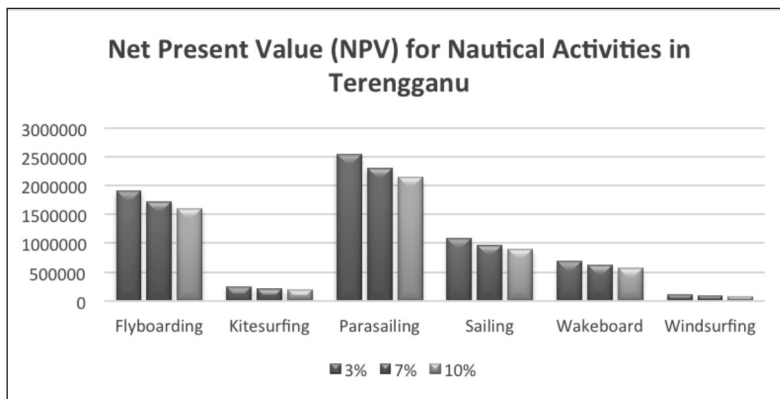


Figure 1: The comparison of NPV between all potential nautical activities in Terengganu

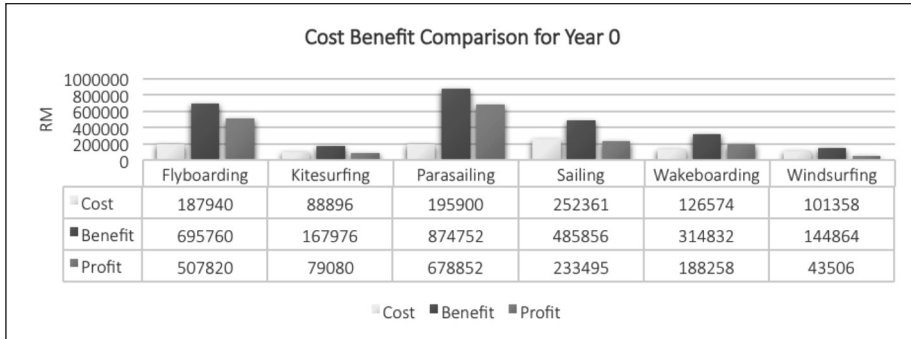


Figure 2: Cost benefit comparison of each identified activities for year 0

Hence, based on the calculated cost and benefit as well as NPV, it shows parasailing activity is the most beneficial nautical sport tourism to be proposed and conducted in Terengganu compared to the others. Thus, the goal of this study has achieved accordingly.

Discussion

Since the Monsoon Cup has been officially moved to Johor, causes the total number of tourists in Terengganu clearly decreased, the government needs to take an alternative to replace this attraction event to another potential event that possibly will increase the tourist in Terengganu. Based on the findings, the parasailing is the most potential nautical activities with profit RM678,852 respectively that can replace the Monsoon Cup due to its capability to generate an outcome to the service provider and to the government. Besides, based on the results, the most potential activities that

possibly can replace the Monsoon Cup events are identified.

Figure 3 shows that the arrangement of all the potential nautical activities and the list are made based on its calculated Net Present Value (NPV) from the most potential until the least potential nautical activities. The most potential nautical activity is parasailing.

Based on the results, these three nautical activities are the top potential nautical activities to be held in Terengganu as they provide relevant opportunities to the state in order to sustain the tourism industry. By organising these potential activities, it expects to attract not only the tourists, but also the international water sport associations to join such as The Water Sports Industry Association (WSIA), The Sailing and Cruising Association, Dinghy Cruising Association, Canadian Fly Board Association, International Fly Board Association, etc. By participations of all those associations, it



Figure 3: The arrangement from the most potential until the least potential of nautical activities

could possibly increase the total number of tourists to Terengganu, both international and local, just like organizing the previous annual Monsoon Cup event. Those potential activities can be proposed to the state government as the alternatives to boost or sustain the tourism industry in Terengganu as those activities not only could increase the total numbers of local or foreign tourists, but also can increase the contribution of tourism industry in Terengganu to the national GDP of Malaysia.

In comparison to other studies conducted, this study provides the alternatives for the state government to improve and empower the nautical sports activities in which can contribute to the local economy especially to the state of Terengganu, Malaysia. The result of this study can contribute an insight to the decision makers and organisers to have a future planning in holding an annual nautical sports event to attract more tourists and participants to join. The comparison made between each nautical sport activities listed using the CBA help to indicate the potential activity that can be considered in sustaining the nautical tourism economy of the State.

Conclusion

Terengganu is a popular state for tourist destination in Malaysia. Visitor usually visit any places emphasized on the aspects of safety, comfort, reasonable cost for any interesting activities and the availability of facilities (Othman, Mohamed & Khairi, 2012). In addition, Terengganu also is one of the states in Malaysia that actively promote tourism either to the local and foreign tourist (Hamid, 2016). The state government is promoting a diversity of tourism product in order to give the variety of activities to the tourist. In this regard, the identified potential nautical activities possibly meet the needs of the visitors. It is recommended to organize all these activities due to replacing the Monsoon Cup that already located to Johor in order to sustain the tourism industry in Terengganu and encourage more tourist either from local or foreign countries to come to visit Terengganu. Based

on the findings, it is established that parasailing, flyboarding and sailing activities have the highest benefit among those potential activities based on the CBA and calculated NPV. All these activities give a high impact to the community and social in Terengganu. The implication of these activities will possibly increase the total number of local and foreign tourist and can generate higher income for the government. The total employment also will be increased when there are so much activities in this industry and add special values to Terengganu which known as a nautical tourism states in the world.

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