Importance Performance Analysis (IPA) on Tourism Destination Competitiveness in Mabul Island, Sabah

Sharma Daisey Sundram, Arni Abdul Gani

In-Text Citation: (Sundram & Gani, 2022)
To Cite this Article: Sundram, S. D., & Gani, A. A. (2022). Importance Performance Analysis (IPA) on Tourism Destination Competitiveness in Mabul Island, Sabah. *International Journal of Academic Research in Business and Social Sciences*, *12*(2), 110–129.

Full Terms & Conditions of access and use can be found at
http://hrmars.com/index.php/pages/detail/publication-ethics

Importance Performance Analysis (IPA) on Tourism Destination Competitiveness in Mabul Island, Sabah

Sharma Daisey Sundram[1,2], Arni Abdul Gani[2]

[1]Tourism Malaysia, 9th Floor, No. 2, Tower 1, Jalan P5/6, Presint 5, 62200, Putrajaya, Malaysia, [2]Faculty of Hotel and Tourism Management, Universiti Teknologi MARA, Puncak Alam Campus, 42300, Selangor, Malaysia
Email: daisey83@gmail.com, arni@uitm.edu.my

Abstract
Mabul Island is a popular diving site for divers, with its main appeal of marine life as one of the most visited islands in Malaysia. If the island is not protected from tourist activities, its image as a tourist destination may deteriorate. This research focuses on measuring the tourism destination competitiveness by evaluating the sustainable features of Mabul Island using Importance Performance Analysis (IPA). The aim is to identify the most essential features of Mabul and evaluate its performance. The survey questionnaires were distributed to tourists who visited Mabul Island between 2017 and February 2020. Six (6) attributes that represent tourism destination competitiveness (TDC); destination management, natural resources, quality service and safety, location and accessibility, E-business, and sustainable tourism were tested. Data were analysed using mean and standard deviation and later, paired t-tests were employed to examine the statistical differences between the means of importance and performance. Only two variables; locality and accessibility, and E-business indicated a statistical significance between importance and performance rated by respondents. The mean values were also plotted into the IPA matrix to visually present the results based on four (4) quadrants: Sustainable tourism is the only attribute in the 'keep up the good work' quadrant; Destination management, natural resources, and quality service and safety are in the 'low priority' quadrant; Location locality and accessibility is in 'concentrate here' quadrant; E-business is plotted in 'possible overkill' quadrant. These findings are the valuable information for Sabah Tourism and relevant authorities to enhance Mabul Island and ensure its competitiveness as a desired tourism destination in Malaysia. This study suggested tourism policymakers and destination managers to do necessary monitoring and assessment on a regular basis to preserve the island for tourism purposes.
Keywords: Tourism Destination Competitiveness (TDC), Island Tourism, Mabul Island, Importance, Performance Analysis (IPA), Destination Management

Introduction

Tourism industry is worth billions and provides a source of income to the world economy. The estimated rise in tourist arrivals from 2010 to 2030 reflects an increase of an

average of some 43 million international tourist arrivals annually over the 1995 to 2010 period, compared to an average increase of 28 million per year (World Travel Organisation, 2019).

A tourist destination is typically made up of different features, including lodging, food, recreation, shopping, and services, among others. All these has influence on tourists' decision making and affect their overall satisfaction. In most cases, a traveller can rarely see all the qualities of a destination on a single journey (Limburg, 1998) as cited in Deng and Pierskalla (2018). In many instances, a traveller decides to travel to a specific destination based on their assessment on pre-determined criteria and characteristic before and after they have returned. In addition, this decision will have a major effect on their satisfaction with the destination (Prayag et al., 2010). Past evidence suggests an approach in evaluating the quality of destinations, by examining the satisfaction of the tourists. Tourists' awareness of destination competitiveness will influence their understanding of quality when they make implicit or explicit distinctions between services, attractions, and level of service of multiple destinations (Weldearegay, 2017). The utilisation of competitive destination success can be a direct form of external ideas. It demonstrates the main advantages and disadvantages of a tourism site from a visitor's viewpoint. It is understood that the tourist experience should be properly evaluated, and according to a consumer-based perspective, consistency is viewed by customers; hence, the measurement of tourism is regarded to be a proper instrument for measuring the competitiveness of tourism (Dwyer & Kim, 2003; Weldearegay, 2017).

The attractiveness of Mabul Island as one of sought-after island-tourisms in Malaysia is determined through its marine life and nature. Thus, if these key tourism resources are not safeguarded from degradation, particularly from tourism activity, the island may suffer with destruction. This can lead to unwanted effects on Mabul's overall competitiveness. Some studies have indicated alarming findings on the condition of this island. The island is not only threatened by the high number of tourists but also by the adverse effects of over-tourism, namely the lack of sense of place for local people, increased pollution, and privatisation of public space (Seraphin et al., 2018). An increased of tourists can give an adverse effect on the environment and marine ecosystem and eventually implicate the island with environmental problems (Rozeleeet al., 2015). The issues with implementation of sustainable tourism in Mabul Island had taken into attention on how mass tourism has seriously affected the island; it was reported that overflow of tourists had increased piles of garbage as well as contributed to critical water shortages (Nuh, 2021). The relation between tourism and the environment had proved that there are issues contributed by mass tourism which need prompt attention. Apart from that, the absence of ecological awareness, as well as inadequate crowd control management (overtourism) in destinations such as Mabul Island can make Malaysia to be less competitive than Thailand, Japan, and South Korea with its consistency in practicing sustainable management (Alipour & Arefipour, 2020).

Other problems that have contributed to the destination are residents' lack of a sense of belonging because of the increasing privatisation of public space. As mentioned in Milano, (2017), this lower buying power equality among locals versus visitors has an impact on the socio-cultural of the local community. Previous study conducted by Rozelee et al (2015) had focused on environmental features and relates them to education factor as contributing aspect of tourist's behaviour, without looking at competitiveness factors. Therefore, this research is intended to examine the destination competitiveness factors in Mabul Island, by

testing the tourism destination competitiveness variables and employing an Importance-Performance Analysis (IPA). The research objectives set for this research are (1) to identify the attributes of destination competitiveness relevant to Mabul, and (2) to evaluate these attributes using IPA analysis.

Literature Review

The island of Mabul is a remote island destination that rich in biodiversity, but it is now facing rapid extinction of flora and fauna due to high number of tourist arrivals. Besides presenting many opportunities, tourism in Mabul also brings threats. Rapid increase in tourists' arrivals always require more resources to be provided. McCann (2019) indicated that more developments made in the island would create more waste and tensions among the local community. Leem, Kassem and Sumampouw (2012) stated that the expansion of tourism on the island has been irregulated since 2006 and the number of tour operators has doubled. The increase of development was also made to fulfil tourists demands (Rozelee et al., 2015).

The rise in the number of tourists traveling to a destination has generated a new term known as "over-tourism" or 'tourism phobia', which also proving a great challenge for the community and tourism manager to manage overcrowded towns and cities. Since over-tourism has led to negative implications especially on natural resources, tourism management and good practice in sustainable tourism are essential for destination sustainability (Urban & Growth, 2018).

Buckley (2012) has indicated that tourism sites with natural resources would attract more tourists to visit and conduct interesting activities. Unfortunately, these activities resulted in environmental degrades that affect the destination, leading to fewer tourists visiting the attraction which affects the incomes of the local community, and in the long run, has negative implications on the environment or natural resources. For island destinations, sustainable tourism growth is crucial (Prayag et al., 2010).

Islands, particularly in the coastal areas, have fragile ecosystems that are at risk due to the significant social and cultural, environmental, and fragile eco-systems induced by tourism. This including high waste disposal volumes, the degradation of coasts, the transition from fisheries to tourism, as well as the fall of traditional agricultural values; and the major importance was cited in (Hsu et al., 2020). This will require special attention in planning, development, and operation towards sustainable tourism through the implementation of the most appropriate concept and approach. The threats mentioned will have major impacts on residents' cultural heritage and culture apart from the environmental degradation due to the overuse or over tourism. Moreover, unmanaged rise in conventional coastal tourism presents uncertain dangers for the economic, socio-culture, and habitats of island destinations. Although tourism contributes by offering economic opportunities to the economy and the health of insular populations in general tourism development, these negative effects can be devastating and may have implications for future generations.

The Concept of Sustainable Tourism

The basis theory behind the concept of sustainable tourism is that tourism able to improve social, economic, and environmental effects while striving to minimise undesirable effect of tourism growth. The balance in terms of social, economic, and environmental implications of tourism destinations today may have positive implications for future generations (Rasoolimanesh & Jaafar, 2017). The principle of sustainable growth in tourism is a crucial component of the elimination of adverse effects on tourism. Besides, the promotion

of a balanced development of destinations (Zhang & Chan, 2016) and tourists' experience of other competing destinations influence their attitude towards a product as they make implicit or explicit associations between resources, attractions, and quality of service for different destinations (Djeri et al., 2018). It is important to consider what is essential for a tourist destination and how it operates onto other destinations in terms of resources, service preparation, and coordination of facilities to enhance tourist experience (Rašovská et al., 2020).

Although there are many earlier studies on the topic that serve great understanding on the vitality of tourism sustainability, the definition can be adjusted to allow a wide variety of concepts and standards (Gebreegziabher & Kumar, 2019; Gkoumas, 2019). In many instances, sustainability is often equated with environmental initiatives; however, the concept of sustainability must be broader and must certainly cover economic and socio-cultural aspects. The study proposes to take account of all three dimensions of sustainable development as the comprehensive approach to the evaluation of sustainable perceptions of a tourism area. Strong social concerns about how tourists perceive sustainability value and satisfaction during the tour can increase development, especially with the current tourism environment. Tourists will probably gain an awareness about the importance of tourism sustainability.

In recent decades, the discussion on tourism sustainability has increased tremendously. This is due to the growing awareness by public authorities regarding the limitations of the use of natural and cultural resources as well as of the negative impact which tourism could have on the environment, society and, indeed, human beings, without appropriate measures (Pulido-Fernández et al., 2019).

Tourism destination competitiveness (TDC)

Comprehensive research on island destination competition is relatively uncommon. Factors that influence island competitiveness are varied from one research to another, with several of them were developed to evaluate established island tourism sites (Mustafa et al., 2020). A destination that wants to gain a competitive advantage in the tourism business must ensure that its overall appeal and tourist experience are superior to the numerous other options available to potential visitors. Existing and potential visitor numbers are closely tied to a destination's overall competitiveness, which however, that term is defined or quantified. The creation of a destination competitiveness process involves tourism stakeholders in the private and public sectors, and it aims to recognise the improvement areas of their destination from the standpoint of visitors, enhance opportunities for sustainable tourism, and establish strategies to counter potential threats to long-term visitation.

Mira, Moura and Breda (2016) mentioned that the conditions facilitating destination competitiveness are associated with the characterisation of resources, thus making a distinction between the inherited, created and support resources, destination management and cyclical conditions. The expansion of a group of competitiveness indicators would be a useful tool to determine what characteristics or factors are impactful to visitors' decisions to travel to other nations. The creation of an integrated set of indicators will allow the assessment of the relative strengths and weaknesses of various tourism locations to be happened, which may then be utilised by industry and governments to enhance tourism arrival, expenditure, economic benefits, and resident quality of life (Dwyer & Kim, 2003). Investigations on destination competitiveness were conducted in various types of destination and tourism products. A recent work by Happ (2020) reviewed on competitiveness factors for

a sports destination, where she concluded that there is no universal indicator for measuring competitiveness. This is true when tourism involved covers each product that certainly has its unique characteristics. Goffi, Cucculelli and Masiero (2019) on the other hand tested on sustainability influence on tourism destination competitiveness in developing countries. They concluded that sustainability plays a key role in fostering tourism destination competitiveness, where a 'cleaner' tourism that in favour of economy, environment and society is in dire needs in developing countries.

The method to measure destination competitiveness can either be subjective or objective methodology (Heath, 2003; Zehrer et al., 2017; Woyo & Slabbert; 2021). Subjective nature of study will investigate competitiveness based on tourists' perception or expectation, while objective study will measure competitiveness based on actual figures like revenues, market share, and tourist arrivals. Regardless of methodology chosen for measuring competitiveness, its relation towards enhancing desirability of a destination is profound. The findings from the study can provide a comprehensive understanding of the important features of a destination and help authorities to make decisions on how to improve and sustain the competitiveness of the destination.

Importance Performance Analysis (IPA) in Tourism Study

In tourism marketing literature, the use of Importance Performance Analysis (IPA) was widely documented (Murdy & Pike, 2012). Martilla and James in the 1970s, created the Importance–Performance Analysis (IPA) framework which has been useful to measure numerous aspects of the services industry. Furthermore, it has frequently utilised in hospitality and tourist research because of its adaptability (Lai and Hitchcock, 2015). Anecdotal evidence suggests that IPA research is often addressed in various hospitality and tourism conferences (Jeng et al., 2019).

IPA has been used in many previous analyses to assess the understanding of target marketers on customer experiences (Sörensson & von Friedrichs, 2013). IPA has also been used to assess the performance of a specific tourism location in terms of social and environmental sustainability, as well as to determine if international tourists and domestic tourists differ in the sustainability criteria that they value (Jeng et al., 2019).

The analysis is a great strategy for allocating a destination scarce resources and focusing its operations toward the growth of the most valuable attributes to the tourist (Stamenkovic et al., 2018). How the destination's resources are utilised to maximise tourist satisfaction is vital; therefore, enhancing experience management, training, service coordination, or information providing (Pearce, 2015) are important. Thus, government officials (at the local and national level) will be able to design policies and procedures based on the IPA results to attract more visitors, improve services, and manage the destination as cited by Rašovská, Kubickova, and Ryglová (2020).

IPA is often used to assess service quality and customer satisfaction, but Evans and Chon (1989); Chan (2006) pioneered its usage in tourist policy and public park management, respectively, which are now been extensively used in tourism research (Lai & Hitchcock, 2015; Sever, 2015; Zhang, et. al., 2016).
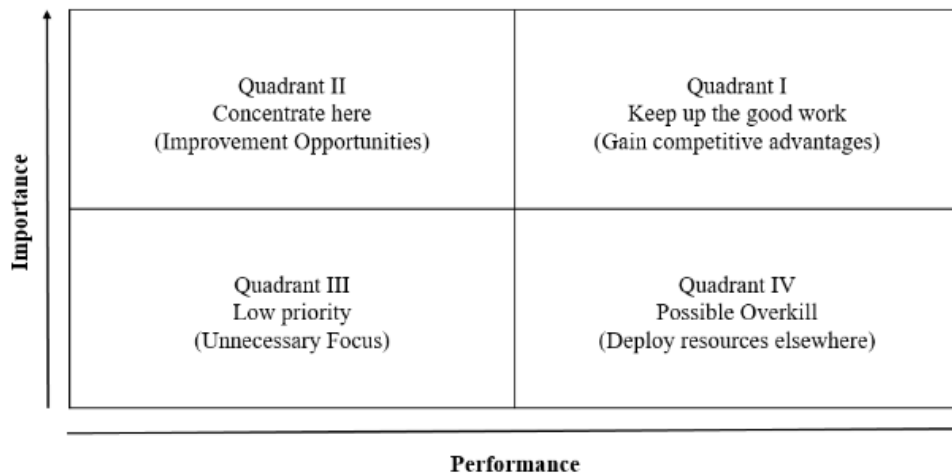
Figure 1. 1: Importance-Performance Analysis (IPA) and Tourism Destination Competitiveness.
Adapted the IPA scheme from (Djeri et. al., 2018)

The IPA method concentrates on four quadrants that indicate a current management approach. The attribute in Quadrant I, is extremely important and performs well. This means that tourists regard such characteristic in this quadrant as important to the service they received. In Quadrant II, the attributes have high importance but low performance. It is a sign of serious performance deficiencies when the most important attribute fails to please tourists. Such an attribute should become a priority to be reached at the first place in order to assure the great quality of services is given to customers. This scenario necessitates swift response and the deployment of more resources. If it is not achieved right away, it may become a serious weakness, hence lowering the level of competition.

The Quadrant III attributes are known to be low priority attributes that do not need extra support and performance improvement, or low priority attributes. Quadrant IV qualities are referred to be 'potential overkill,' and development strategies that are focused on directing expenditures towards relevant attributes to tourists (Djeri et al., 2018). In this research, the incorporation of the IPA matrix will indicate tourist perception towards destination management organisation through four tourist perspectives, namely economic, social, cultural, and environmental.

Research Methodology
This research assumes a method presented by Martilla and James (1977) or the Importance-Performance Analysis (IPA) as an instrument to quantify the performance and satisfaction of tourists regarding their recent travel.

The population of interest in this study was tourists that visited Mabul Island from 2017 till early 2020. For this study, the population was based on data obtained from accommodation providers and the total population is 269,534 tourists for the year 2019. Sample size required was calculated at 384 respondents based on (Krejcie and Morgan, 1970). Given the present situation of the pandemic, the research employed a non-probability sampling through a convenience sampling (Deng & Pierskalla, 2018). The unit analysis of the individual aged from 18 years and above. The criteria of a one-night stay were set to ensure

that the tourists had gained some exposure and experience with the attractions, facilities and local people at the island. This was listed as the screening question in the survey.

The questionnaire was adapted from (Dwyer et al., 2004; Wu and Jimura, 2019; Rašovská et al., 2020; Simon, et al., 2020). A total of 6 variables of competitiveness with 57 attributes were presented to the respondents. For measuring importance-performance, the attributes were asked twice in the questionnaire; one each for the scale. A pilot study was carried out prior to the actual data collection and the results of internal consistency of items yield a favourable result with all dimensions scored 0.8 and above. This indicates a good internal consistency for all variables. Survey was conducted online using platforms such as Facebook, Linkedin and WhatsApp for the duration of 3 months between April to May 2021. Based on the screening question, 386 (75.7%) respondents are eligible for this study while 125 (24.3%) respondents did not meet the sample parameter.

Descriptive statistics, exploratory data analysis (EDA), exploratory factor analysis (EFA), and paired-sample t-analyses were also used in this analysis. The results were presented using IPA matrix to answer the research objectives. Pilot study was carried out with 30 questionnaires distributed to tourists and representative of stakeholders. The data were then analysed for consistency test, and the results indicated a score of 0.7 and above for all dimensions. According to Hair, Arthur, Phillip and Mike (2007), the value of 0.7 and above indicate an acceptable internal consistency value.

The actual data was collected via online starting on April 3 and concluding on May 7, 2021. Respondents were informed at the beginning of the survey by the researcher, that their participation was optional, not mandatory. Brief explanations on the research background, the research objectives, and goal, as well as guideline to fill out the questionnaires were provided. Throughout the questionnaire dissemination, the researcher had minimal contact with the participated respondents of this survey.

Results and Findings
Demographic Analysis

In total, 511 visitors were approached via online survey and respondents were asked as part of the screening, whether they had visited Mabul Island between 2017 and February 2020, The result indicates that 386 (75.7%) of them said yes, and 24.3% said otherwise.

Out of 386 respondents, 205 respondents were male and the remaining 181 were female. Almost 32.4% of respondents were between the age of 30–39 years' age group, followed by 25.9% at the age of 40–49 years, 23.1% at the age of 50 years old and above, while the remaining 18.7% were aged between 18-29 years old.

In terms of country of origin, 14% of the respondent were from India, 7.5% from Russia, 7.3% from Belgium, 6.2% from Singapore, 6.0% represent respondents respectively from Ireland, Malaysia, and Sweden. 5.7% respondents were from Japan while Norway and the United Arab Emirates (UAE) represent 5.4% respondents respectively. Canada was represented by 5.2% of respondents, Egypt by 4.9%, and Poland by 4.7%. France was represented by 2.8% of respondents, Spain with 2.6%, and Germany with 2.3% of respondents. Denmark marked a 1.0% share, followed by Australia and Cambodia with 0.5% each, and New Zealand, South Korea, and Sri Lanka with 0.3% respondents respectively.

With regards to the profession or occupation, 35.2%) respondents were self-employed, with the private sector, 31.1% of respondents were attached to the private sector, while 19.4% of respondents were students and 14.2% were the government servants.

In terms of length of stay, 38.3 % stayed in Mabul for two nights while 2.1 % stayed for six nights. According to the findings of the last visit, 49.7% of respondents came to Mabul Island for leisure, 29.8% came for diving, 14% came for business, and 6.5 % participated in activities.

When it comes to information sources when making travel decisions, 46.6 % used the Internet and 4.4 % get the information from travel agencies and television. With regards to the question who make travel decision, 68.4% respondents made their decision on their own or with families, while 7.8% were set by the travel agency.

Exploratory Data Analysis

Exploratory Data Analysis (EDA) objective is to assist analysts in recognising natural patterns (Komorowski et al., 2016). EDA is a necessary stage with its major purpose of the exploratory analysis is to seek distribution, outliers, and abnormalities in the data. The descriptive statistics highest mean of 4.07 is for destination management, quality service, and safety. The trimmed mean values of 4.08 and 4.07 like in the mean value, showing that there are no possible outliers in the data. The mean value ranges from 3.99 for natural resources to 4.25 for sustainable tourism, with trimmed mean values of 3.99 and 4.28 indicate that there are no outliers in the data.

Normality analysis was conducted for 386 respondents for important and performance variables. The Kolmogorov-Smirnov p-value is less than 0.5 indicating the data as not normally distributed. However, this study utilised a Likert scale measurement which is based on ranking, and due to the Likert scale measurement, the data unable to generate normal distribution compared to the ordinal measurement that generates normal distribution.

Exploratory Factor Analysis

Exploratory Factor Analysis (E.F.A) was applied to 114 different destination features. The Cronbach's Alpha reliability coefficient was used to evaluate the consistency of variables preserved within each component. Factor analysis was used to reduce data to a smaller number of dimensions that explained the rest of the variance in the satisfaction structure.

The principal components analysis (P.C.A.) was performed on 114 destination attributes, which are used to measure the tourist degree of satisfaction by specific characteristics of the destination. Several criteria were utilised in selecting components and establishing dimensions, including eigenvalue, percentage of variance, Cronbach's alpha coefficient, extracted communalities from individual motivations, and scree plot.

Table 4.1: Results of Factor Analysis.

Attributes	Eigen Value	Variance Explained	Cronbach's Alpha	Communalities
B - Destination Management	2.29	38.16	.863	
Prioritise tourism development.				0.907
Responds to visitor needs.				0.916
Tourism operators reflect positive values.				0.934
Tourism operators comply with business ethics.				0.894
Positive communication between tourists and residents.				0.928
Invests in environmental sustainability for tourism development.				0.956
Offers attractive packages to enhance the visitor experience.				0.953
Tourism operators that ensure visitor satisfaction.				0.911
Value for money.				0.942
Provides an authentic destination experience.				0.919
Excellent destination image.				0.955
Positive attitudes of residents towards visitors.				0.974
C - Nature-based Resources	1.327	22.119	.685	
Unspoiled nature.				0.954
Adventure activities (such as diving).				0.891
The variety of marine life.				0.922
Nature-based activities.				0.879
Recreation facilities.				0.896
Climate/weather in the island destination.				0.963
Natural attraction /scenery.				0.864
The cleanliness of beaches.				0.957
Sanitation and Hygiene.				0.917
D - Quality Service & Safety	1.221	20.353	.852	
Telecommunication system.				0.916
Quality tourism services.				0.925
The positive attitude of customs/immigration officials.				0.95

Health/medical facilities.				0.917
The accommodation variety that value for money.				0.954
Special events/festivals.				0.957
Entertainment (e.g., nightlife).				0.916
A variety of local cuisine.				0.881
Financial institutions/currency exchange facilities are important to me when selecting a destination.				0.92
Quality local transportation that value for money.				0.962
Security and safety.				0.93
Political stability.				0.93
E - Locality & Accessibility	0.707	11.778	.802	
Direct flights into a destination				0.923
Frequency/capacity of access transport to the destination				0.927
Distance to destination				0.95
Transport network (infrastructure & Services) (Road condition, Jetty terminal)				0.947
Destination guides (maps & signs)				0.936
Accessibility to natural areas				0.948
F - E-business	0.256	4.264	.791	
Information technology utilisation by tourism operators				0.932
E-commerce services/e-banking				0.938
Accessibility to tourist information online				0.967
Accessibility of tourist information on-site				0.856
Mobile application (Booking system)				0.882
Free Wi-Fi on site (Internet connection)				0.825
G - Sustainable Tourism	0.2	3.327	.947	
Environment Sustainability (eg. Protection of natural				0.825

environment and preservation of local culture).	
Environmental awareness amongst local people.	0.924
Environmentally-friendly tourism goods and services are available on the island. (eg. Reduction of waste, water, and energy use).	0.947
Tourism operator that applies sustainable tourism. (Go green, no plastic, minimise waste).	0.949
Tourism operator has a green award or is committed to environmental certification.	0.901
Comfort and value for money over environmentally friendly 'green' practices	0.951
Provide information about the sustainable management policies of hotels and guesthouses when booking accommodation.	0.958
Sustainable production and consumption of tourism goods and services (eg. solar panels, controlling in power supplies usage).	0.919
Reducing pollution (eg. practice recycling).	0.869
Overcrowding of visitors is control.	0.823
Biodiversity conservation (eg. protect and preserve the variety of species, habitats, ecosystems).	0.815
Marine protection and nature reserve (eg. Ocean and shore, coral and marine life).	0.942

Based on the results, only destination management, nature-based resources as well as quality service and accessibility showed the Eigen value of more than 1 and hence extracted. This is confirmed by the scree plot with more than 80% cumulative variance. However, all 6 attributes were retained for further research.

Paired Sample T-Test

The paired sample t-test was applied to compare the tourists' perception on the importance of each attribute and how they perceived Mabul Island. Based on the results, all

attributes except locality and accessibility as well e-business shows no significant statistical difference between the means of importance and performance of each attribute (p < 0.05).

Table 4.2: Paired T-test analysis of importance and performance on each attribute

Destination Attributes	Mean Difference	SD	t	Sig (2-tailed)
B - Destination Management	.069	.205	1.168	.267
C - Nature-based Resources	.000	.196	0.000	1.000
D - Quality Service & Safety	-.036	.221	-0.561	.568
E - Locality & Accessibility	.287	.197	3.573	.016
F - E-business	-.170	.137	-3.05	.029
G - Sustainable Tourism	-.047	.202	-0.816	.432

This proves the performance of Mabul Island in destination management, nature-based resources, quality service and safety, as well as sustainable tourism meet their respective importance as perceived by the tourists. Meanwhile, a significant difference can be observed in locality and accessibility, and e-business attributes as p<0.05, hence rejects the null hypotheses. This shows that there are differences in the importance of these attributes and their performance as assessed by the tourists.

However, a negative t value can be observed in the e-business attribute, and simultaneously shows that the performance has exceeded its importance significantly. This aligns with results in the IPA matrix which demonstrated the impact of unnecessary focus that was put on this attribute even though the importance is very low.

I.P.A. matrix

Table 4.3. Importance -performance means scores for six destination factors.

Attributes	Importance Factor	Performance Factor	Mean diff.
B - Destination Management	4.08	4.01	-0.07
C - Nature-based Resources	4.00	4.00	0.00
D - Quality Service & Safety	4.07	4.10	0.03
E - Locality & Accessibility	4.31	4.02	-0.29
F - E-business	4.04	4.21	0.17
G - Sustainable Tourism	4.21	4.26	0.05

Based on the Importance-performance scores, most destination performance factors meet the customers' expectations except for destination management and locality and accessibility. However, the t-test showed the insignificant of the differences (p>0.05). Hence, it can be said that the customers are overall satisfied with the destination performance.
Figure 4.2: Importance-performance analysis grid for 6 attributes
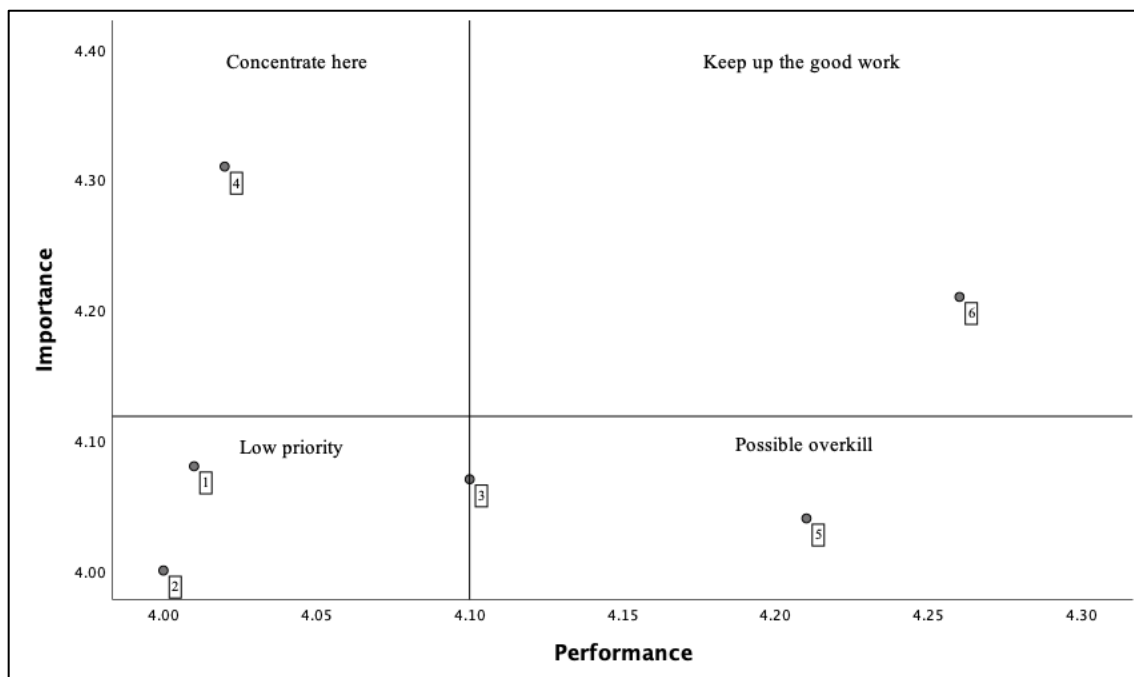
Figure 2. importance-performance analysis grid – results based on analysis in SPSS 26.
Notes: 1 - Destination Management, 2 - Nature-based Resources, 3 - Quality Service & Safety,
4 - Locality and accessibility, 5 - E-business, 6 - Sustainable Tourism

Figure 4.2 shows the overall importance and performance attributes state and proposed strategy that should be taken by destination managers and planners. The following are more details about each quadrant. Quadrant I, which represented "keep up the good work," solely displayed sustainable tourism qualities. The components in this quadrant are extremely important and function admirably. As a result, such quality must be kept and preserved.

On quadrant II that designated concentrate highlighted the elements of location locality and accessibility of the tourism destination that should be improved. The attribute in this quadrant is important, yet it performs poorly. It is a sign of significant performance adequacies in which the important characteristic fails to satisfy tourists. The element in this quadrant should become a priority to be accomplished and assures excellent quality of services to be provided to tourists.

Destination management, as well as nature-based resources, were in Quadrant III (Low priority) and the attribute of quality service and safety was designated between Quadrant III and Quadrant IV. All of these attributes represent low importance and performance. They indicate that the characteristic is underperforming, but no further change is required because it contributes nothing to the improvement of services in the perspective of customers who consumed them. Any further effort and cost spent on the elements will be wasted since it has a minor influence on the services that are used.

The e-business was positioned in quadrant IV (Possible Overkill). These attributes performed very well; however, this attribute should not be focused too much as it possesses lower importance compared to other attributes. Quality service and safety that fall between quadrant III and IV will have a similar outcome. It is more beneficial to reduce the allocation of resources and reassign efforts to the other attribute that need critical intervention.

The determination of the quadrants was based on the means of both importance and performance of the tourism destination. Based on the means scores ($\bar{x} > 4$), it can be said in

overall that, the tourism destination performed very well in meeting the importance of the attributes.

Regardless, several attributes such as destination management and nature-based resources can be improved further in their performance. Apart from that, improvement in e-business is required in order to stay competitive with other destinations. Based on the Mean ratings of importance and performance of selection factors in Table 4.9 below, several attributes' performance is lower than their respective importance as indicated by the negative mean difference values. The destination management might need to focus on these attributes to elevate Mabul Island as an ideal tourism destination.

Discussion

As highlighted earlier, the main objective is to identify the important attributes for tourists when selecting an island tourism destination and to evaluate its performance in Mabul Island. 12 attributes were dispersed across all four quadrants to provide indicators to tourism players in Mabul Island on the importance and performance of the element and can be used as suggestions to local tourism authorities, destination planners, and managers to take appropriate action based on tourist input. Sustainable tourism features are placed as important during decision making and rated as perform well among the tourists. These two imply that tourists are satisfied with the way these elements work to enhance Mabul Island. The enthusiastic reactions of tourists to these elements demonstrated that they are aware of the need for marine and nature reserve protection. Mabul Island is heavily dependent on the ocean and marine life, as well as the rich biodiversity that is unique to the area. Mabul Island offers a variety of activities, including diving. The island is the only site where divers may spend night when exploring Sipadan Island. As a result, biodiversity conservation, maritime protection, and natural reserves must all be maintained and leveraged as strategic assets. Maintaining an appropriate level of resources is critical to reap the most long-term advantages for Mabul Island. Apart from that, sustainable tourism involves expanding tourism to provide excellent economic and social advantages while attempting to minimise the negative consequences of visitor development (Buckley, 2012; Żemła; 2020). Taking into consideration that attributes in this dimension is equally fragile, utmost precautions and attention should be given to these elements. Apart from that, the tour or diving activities conducted within the shores of Mabul island especially in designated areas of the island should have a minimal impact, especially on the biodiversity of marine life such as turtles and corals that are commonly seen in the water of the island. It is also crucial for the local tour operators and destination planners to train their staffs to be more cautious when handling tours in the area.

Location, locality and accessibility have outstanding importance but poor performance in Mabul Island. The presence of excellent transport and localised transportation make it considerably easier for tourists to move from the origin to the destination's points of interest. However, the attributes in this quadrant that relates to local transportation can be further enhanced by providing a better schedule transfer from the airport to the Semporna jetty and jetty to the island that is favourable for tourists. Apart from that, tourists are also influenced by the availability of transportation and easy access to nature-based areas (Manrai, Manrai & Friedeborn, 2020). Therefore, substantial investment in infrastructure improvements like having a better jetty from the mainland to the island is crucial (Zhang & Chan, 2016). These attributes also highlight the importance of the involvement of local municipal council or authority in ensuring a better road system from the

airport to Semporna town. As for destination management and nature resource, both of these attributes are low relevance to the tourists and rated as underperform. This indicates no immediate action on this as these characteristic does not affect tourist satisfaction and the quality of improved-services provided to them. However, in the long run, these characteristics should not be overlooked, as sustainable growth in terms of destination management is critical and includes the component such conservation of the environment and the preservation of local culture (Hossain & Islam, 2019). Future destination development plans must be compatible with environmental integrity for the tourism sector to be economically successful. Therefore, tourism stakeholders play an important in sustainable practices in destinations management (Dwyer, Mellor, Edwards & Kim, 2004). E-business, quality service and safety qualities are the least important but have great performance. Although these attributes may not require further enhancement, it would be better to reduce resource allocation as well in order to focus on other attributes that need improvement. However, these are entirely IPA-based results and should be interpreted with caution because the "possible overkill" elements are frequently overlooked after evaluation (Zhang, et. al., 2016). Thus, there are tendency that the less rated features, when completely overlooked can become threat and cause a problem in the future. Therefore, it will be necessary to consider for long and short plans to accomplish continuous and responsible destination management while achieving sustainable development.

Tourism destinations use various sets of measures to track the circumstances and impact of tourism on itself, as well as interactions with other entities that are directly or indirectly influenced by tourism supply and demand patterns (Kostić & Jovanović Tončev, 2014; Koens, Postma & Papp, 2018). To remain viable in the tourism sector, each tourism destination must own one or more distinct and unique core resources and attractors (Ritchie & Crouch, 2003; as cited in Deng & Pierskalla, 2018). Sustainability is an important area, especially in environmental terms. In island tourism, there is a strong connection between the environment and irregulated practices that can harm the flora and eco-system of a destination. Continuous evaluation of this features in fragile setting like island is fundamental towards conservation and preservation of the resources.

Some suggestions can be made to further enhance the investigation on destination competitiveness, especially for evaluating sustainable features for island tourism. It is suggested that future researches may consider a qualitative approach like interviewing experts or locals to have a better understanding on the issues under study. Other than that, it is also suggested for future researchers to conduct a comparative study between subjective and objective nature of tourism destination competitiveness research.

Conclusion

Several studies on Mabul Island had been piloted by past researchers such as tourists' views of Mabul Island's environmental effect qualities and their linkage to education, analysing the social carrying capacity of Mabul Island's diving sites, and on sea turtles at a feeding area on Mabul Island have a high spatial site fidelity. However, there no study that evaluating or monitoring tourism destination competitiveness through important-performance analysis (IPA) in Mabul Island. The importance-performance analysis (IPA) is a simple and useful method that assists managers and planners in managing the tourism destination in Mabul Island, Sabah, and any other tourism destination by evaluating consumers' motivation and satisfaction at the same time. This research has able to visually present valuable findings of the most important attributes for tourists when choosing an

island destination and comparatively indicated how these attributes performed in Mabul Island. Generally, the tourists are pleased with their experience and performance of Mabul Island. The study has also discovered the awareness and understanding of tourists regarding the necessity of sustainable tourism, particularly in terms of environmental conservation in Mabul Island. Thus, the stakeholders should concentrate on developing destinations that are engaging to tourists, and at the same time, lead to great sustainable quality and practices.

In conclusion, tourism policymakers and destination managers should examine significant models in planning and managing tourist expectations, and contribute to local economic, environmental, and social needs. By adopting IPA for tourism practitioners and managers, problem solving and quality assessment would be systematically directed.

References

Alipour, H., & Arefipour, T. (2020). Rethinking potentials of Co-management for sustainable common pool resources (CPR) and tourism: The case of a Mediterranean island. *Ocean and Coastal Management*, 183(January 2020). https://doi.org/10.1016/j.ocecoaman.2019.104993

Buckley, R. (2012). Sustainable tourism: Research and reality. *Annals of Tourism Research*, 39(2), 528–546. https://doi.org/10.1016/j.annals.2012.02.003

Deng, J., & Pierskalla, C. D. (2018). Linking importance-performance analysis, satisfaction, and loyalty: A study of Savannah, GA. *Sustainability (Switzerland)*, 10(3). https://doi.org/10.3390/su10030704

Djeri, L., Stamenković, P., Blešić, I., Milićević, S., & Ivkov, M. (2018). An importance-performance analysis of destination competitiveness factors: case of Jablanica district in Serbia. *Economic Research-Ekonomska Istrazivanja*, 31(1), 811–826. https://doi.org/10.1080/1331677X.2018.1456351

Dwyer, L., & Kim, C. (2003). Destination competitiveness: Determinants and indicators. *Current Issues in Tourism,* 6(5), 369–414. https://doi.org/10.1080/13683500308667962

Dwyer, L., Mellor, R., Livaic, Z., Edwards, D., & Kim, C. (2004). Attributes of destination competitiveness: A factor analysis. *Tourism Analysis*, 9(1–2), 91–101. https://doi.org/10.3727/1083542041437558

Gebreegziabher, A., & Kumar, S. (2019). Assessing progress of tourism sustainability : Developing and validating sustainability indicators. *Tourism Management*, 71(April 2019), 67–83. https://doi.org/10.1016/j.tourman.2018.09.020

Gkoumas, A. (2019). Evaluating a standard for sustainable tourism through the lenses of local industry. Heliyon, 5(11), e02707. https://doi.org/10.1016/j.heliyon.2019.e02707

Goffi, G., Cucculelli, M. & Masiero, L. (2019). Fostering tourism destination competitiveness in developing countries: The role of sustainability. *Journal of Cleaner Production* 209(2019), 101-115.

Hair, J. F, Arthur H. M, Phillip S, & Mike P. (2007). Research Methods for Business. Chichester: John Wiley and Son

Happ, E. (2019). Tourism destination competitiveness with a particular focus on sport: the current state and a glance into the future – a systematic literature analysis. *Journal of Sports and Tourism* 25(1), 66-82.

Heath, E., (2003). Towards a model to enhance competitiveness: A Southern African perspective. *Journal of Hospitality and Tourism Management* 10(2), 124-141.

Hossain, M. K., & Islam, S. (2019). An analysis of destination attributes to enhance tourism competitiveness in Bangladesh. African *Journal of Hospitality, Tourism and Leisure*, 8(2).

Hsu, C. Y., Chen, M. Y., Nyaupane, G. P., & Lin, S. H. (2020). Measuring sustainable tourism attitude scale (SUS-   TAS) in an Eastern Island context. Tourism Management Perspectives, 33(December 2018), 100617. https://doi.org/10.1016/j.tmp.2019.100617

Jeng, C. R., Snyder, A. T., & Chen, C. F. (2019). Importance–performance analysis as a strategic tool for tourism marketers: The case of Taiwan's Destination Image. Tourism and Hospitality Research, 19(1), 112–125. https://doi.org/10.1177/1467358417704884

Koens, K., Postma, A., & Papp, B. (2018). Is Overtourism Overused? Understanding the Impact of Tourism in a City Context. Sustainability 10(4384), 1-15. https://doi.org/10.3390/su10124384

Komorowski, M., Marshall, D. C., Salciccioli, J. D., & Crutain, Y. (2016). Secondary Analysis of Electronic Health Records. *Secondary Analysis of Electronic Health Records*, *September*, 1–427. https://doi.org/10.1007/978-3-319-43742-2

Kostić, M., & Jovanović Tončev, M. (2014). *Importance of sustainable tourism*. *February*, 722–725. https://doi.org/10.15308/sinteza-2014-722-725

Krejcie, R. V., & Morgan, D. W. (1970). Determining Sample Size for Research Activities. Educational and   Psychological Measurement, 30(3), 607–610. https://doi.org/10.1177/001316447003000308

Leem, C. P., Kassem, K. & Sumanpouw, M. (2012). Bridging the gap between regional plans and local action: The case of Malaysian coral triangle initiative in Semporna, Sabah. Proceedings of the 12th International Coral Reef Symposium, Cairns, Australia, 9-13 July 2012.

Manrai, L. A., Manrai, A. K., and Friedeborn, S. (2020), "Environmental determinants of destination competitiveness and its Tourism Attractions-Basics-Context, A-B-C, indicators: A review, conceptual model and propositions", *Journal of Economics, Finance and Administrative Science*, Vol. 25 No. 50, pp. 425-449. https://doi.org/10.1108/JEFAS-01-2018-00

Martilla, A. J. & James, C. J. (1977). Journal of Marketing, 41(1), 77-79. https://doi.org/10.1177%2F002224297704100112

Milano, C. (2017). Overtourism and Tourismphobia: Global trends and local contexts. Barcelona: Ostelea School of Tourism and Hospitality. http://dx.doi.org/10.13140/RG.2.2.13463.88481

Murdy, S., & Pike, S. (2012). Perception of visitor relationship marketing opportunities by destination marketers: An important-performance analysis. Tourism Management, 33(5), 1281-1285. http://dx.doi.org/10.1016/j.tourman.2011.11.024

McCann, D. (2019). Mabul Island: Spotlight on ecology. Retrieved from https://tourmab.com/2019/02/25/mabul-island-spotlight-on-ecology/

Mira, M. R., Moura, A, & Breda, Z. (2016). Destination competitiveness and competitiveness indicators: Illustration of the Portuguese reality. *Tékhne - Review of Applied Management Studies*, 14(2), 90-103. https;//doi: 10.1016/j.tekhne.2016.06.002

Muhammad Nuh, K. A. (2021). UPM embarks on green initiative for tourism for tourism and villagers of Pulau Mabul. UPM News. Retrieved from https://www.upm.edu.my/news/upm_embarks_on_green_initiative_for_tourism_and_villagers_of_pulau_mabul-25329

Mustafa, H., Omar, B., & Mukhiar, S. N. S. (2020). Measuring destination competitiveness: an importance- performance analysis (IPA) of six top island destinations in South East Asia, Asia Pacific. Journal of Tourism Research, 25(3), 223–243. https://doi.org/10.1080/10941665.2019.1687534

Pearce, D. G. (2015). Destination management in New Zealand: Structures and function. Journal of Destination Marketing and Management, 4(1), 1-12. https://doi.org/10.1016/j.jdmm.2014.12.001

Prayag, G., Dookhony-Ramphul, K. & Maryeven, M. (2010). Hotel development and tourism impacts in Mauritius: Hoteliers' perspectives on sustainable tourism. Development Southern Africa, 27(5), 607-712. https://doi.org/10.1080/0376835X.2010.522832

Pulido-Fernández, J. I., Cárdenas-García, P. J., & Espinosa-Pulido, J. A. (2019). Does environmental sustainability contribute to tourism growth? An analysis at the country level. *Journal of Cleaner Production*, 213, 309–319. https://doi.org/10.1016/j.jclepro.2018.12.151

Rasoolimanesh, S. M., & Jaafar, M. (2017). Sustainable tourism development and residents' perceptions in World Heritage Site destinations. Asia Pacific. *Journal of Tourism Research*, 22(1), 34–48. https://doi.org/10.1080/10941665.2016.1175491

Rašovská, I., Kubickova, M., & Ryglová, K. (2020). Importance–performance analysis approach to destination management. Tourism Economics. https://doi.org/10.1177/1354816620903913

Rozelee, S., Rahman, S., & Omar, S. I. (2015). Tourists' Perceptions on Environmental Impact Attributes of Mabul Island and Their Relationship with Education Factor. Environ. Sci.Tourism & Environment, Social and Management Sciences, 15(April), 146–152. https://doi.org/10.5829/idosi.aejaes.2015.15.s.219

Seraphin, H., Sheeran, P., & Pilato, M. (2018). Over-tourism and the fall of Venice as a destination. *Journal of Destination Marketing and Management*, 9(January), 374–376. https://doi.org/10.1016/j.jdmm.2018.01.011

Simon, N., Saikim, F. H., Hassanal, A., & Pengiran, B. (2020). Tourist Satisfaction towards Kota Kinabalu, Sabah Using Importance-Performance Analysis (IPA) As a Tool to Determine Urban Ecotourism Potential. February, 187–202.

Sörensson, A., & Friedrichs, v. Y. (2013). An Important-Performance analysis of sustainable tourism: Comparison between international and national tourists. Journal of Destination Marketing & Management, 2(1), 14-21. http://dx.doi.org/10.1016/j.jdmm.2012.11.002

Urban, M., & Growth, T. (2018). 'Overtourism'? – Understanding and Managing Urban Tourism Growth beyond Perceptions, Executive Summary. https://doi.org/10.18111/9789284420070

Weldearegay, H. G. (2017). Importance-Performance Analysis (IPA) of Tourism Destination Competitiveness in Ethiopia: The Tourists' Perspective. Journal of Tourism & Hospitality, 06(06). https://doi.org/10.4172/2167-0269.1000320

World Travel Organization. (2019). International Tourism Highlights International tourism continues to outpace the global economy. 1–24. https://doi.org/https://www.e-unwto.org/doi/pdf/10.18111/9789284421152?download=true

Woyo, E., & Slabbert, E. (2021). Tourism destination competitiveness: A view from suppliers operating in a country with political challenges. *South African Journal of Economic and Management Sciences*, 24(1). http://dx.doi.org/10.4102/sajems.v24i1.3717

Wu, H., & Jimura, T. (2019). Exploring an Importance–Performance Analysis approach to evaluate destination image. Local Economy, 34(7), 699–717. https://doi.org/10.1177/0269094219889604

Zehrer, A., Smeral, E. & Hallmann, K., (2017). Destination competitiveness - A comparison of subjective and objective indicators for winter sports areas. *Journal of Travel Research* 56(1), 55-66. https://doi.org/10.1177/0047287515625129

Żemła, M. (2020). Reasons and Consequences of Overtourism in Contemporary Cities—Knowledge Gaps and Future Research. Sustainability 26(2), 1-20. https://doi.org/10.3390/su13020636

Zhang, S., & Chan, C. S. (2016). Nature-based tourism development in Hong Kong: Importance-Performance perceptions of local residents and tourists. Tourism Management Perspectives, 20, 38–46. https://doi.org/10.1016/j.tmp.2016.07.002