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Assessing Tourists' Willingness to Pay for Community-Based Ecotourism: Enhancing Sustainability and Local Involvement

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Abstract: Malaysia's captivating attractions are increasingly promoted through community-based ecotourism (CBE) initiatives. These efforts aim to empower local communities, conserve nature, and generate income by involving locals in managing ecotourism resources and activities, ensuring both economic benefits and sustainability of protected environments. CBE highlights diverse customs and cultures, enhancing ecotourism experiences through local resources. Understanding tourists' attitudes and preferences is crucial for developing sustainable cultural tourism packages. Key inquiries involve measuring local community participation, artistic elements, and tourism offerings in CBE management around protected parks. Evaluating tourism preferences and willingness to pay (WTP) for attributes provided by local businesses is essential for effective CBE management strategies in rural areas. This study employs the Choice Experiment model to analyze tourists' preferences for CBE activities and their marginal willingness to pay (MWTP) for management attributes at Min House Camp (MHC) in Kubang Kerian, Kelantan. The attributes examined include local community involvement, activity packages, accommodation facilities, and information provided. The study found 'super' package activity, increased local participation and employment, excellent accommodation, and adequate information to be the most important attributes. The study suggests that business owners and local managers adopt the CBE concept and focus on the key qualities that have been identified. Local communities and stakeholders should implement new tour packages at MHC, combining desirable features to meet market demand. Future studies could use a mixed logit model to account for multiple attributes of community ecotourism tours in protected parks.

Keywords: *Choice Experiment, Community-based Ecotourism, Local Communities, Min House Camp, Kelantan, Willingness to Pay*

1. Introduction and Background

Like many other countries, Malaysia is renowned for its captivating and authentic attractions. Sabah and Sarawak have increasingly expanded their initiatives to promote community-based ecotourism (CBE), with a strong emphasis on empowering local communities, conserving nature, and generating income. These efforts aim to engage local communities in decision-making regarding the management of ecotourism resources and activities. The objective is for ecotourism to not only generate income for local populations but also enhance the sustainability of protected natural environments.

Moreover, CBE highlights diverse customs and cultures, enriching individual ecotourism experiences through local and community resources. The economic value of CBE is derived from traditional cultural practices. Understanding tourists' attitudes and preferences is crucial for developing sustainable cultural tourism packages. A key inquiry concerns how to gauge local community participation, cultural elements, and tourism offerings in CBE management around protected parks. Therefore, assessing tourism preferences within the context of ecotourism activities and the willingness to pay (WTP) for attributes provided by local community businesses is imperative. This evaluation can inform management strategies for CBE in rural areas.

Community Engagement (CE) offers several advantages over the Contingent Valuation Method (CVM), particularly in addressing two key issues. CE delineates an asset in terms of its attributes and levels, enabling the measurement of multiple attributes of a good. In contrast, CVM primarily treats a single good as a whole. The CE model is well-suited for estimating tourists' preferences toward multiple facets of CBE in protected

areas. This study seeks to establish a preference framework for CBE using the CE model. The research aims to discover tourists' preferences for various attributes of ecotourism tours. Observable differences in preferences can be assessed through interactions between demographic characteristics and welfare estimates for potential ecotourism packages in protected areas. In essence, this study focuses on the critical aspect of effectively managing community-based ecotourism.

Background

The focal point of this study revolves around Min House Camp (MHC), situated in Kampung Pulau, Kota Bharu, Kelantan, adjacent to the Pengkalan Datu River (refer to Figure 1). Kota Bharu, characterized as a concentrated urban center, is positioned in the northeastern and most ruralized region of Peninsular Malaysia. Given the Malaysian government's keen interest in advancing the ecotourism industry, this research concentrates on rural ecotourism sites in West Malaysia. Notably, various governmental initiatives currently advocate for eco-tourism destinations in this area, particularly in Kelantan. Consequently, the selection of this rural ecotourism destination in Kelantan is motivated by its categorization as a Community-Based Ecotourism (CBE) site and its strategic location. It involves and benefits local communities, promotes the conservation of natural resources, and offers unique cultural experiences to visitors who enjoy exploring the outdoors.

Crucially, MHC serves as a recognized research center, focusing on the study of stingless bee species by several local and international universities. In 2018, out of fourteen Malaysian organizations, MHC received the ASEAN Tourism Award from the Kelantan state, achieving the Green Hotel Standard. The ASEAN Tourism Award acknowledges exemplary sustainable rural or urban tourism products within ASEAN, proposed and implemented through collaborative efforts between public and private sector stakeholders, contributing to the advancement of their respective areas and destinations.

The research in this study was centered around Min House Camp (MHC) in Kubang Kerian a community-based ecotourism project located on the outskirts of Kota Bharu town. It involves and benefits local communities, promotes the conservation of natural resources, and offers unique cultural experiences to visitors who enjoy exploring the outdoors. The camp's expansive compound includes various facilities such as chalets, multipurpose halls, a bee farm, a firefly garden, an organic farm, and a mini petting zoo. Additionally, the camp caters to water sports enthusiasts, providing activities like kayaking, river bathing, fishing, and clam digging.

In addition to the firefly-watching, Min House Camp facilitates various cultural engagements, encompassing craft-making, culinary sessions, traditional games, and performances like “wayang kulit and dikir barat. Wayang Kulit is a traditional form of puppet-shadow play, where intricately designed leather puppets cast shadows on a backlit screen. A skilled puppeteer narrates stories from ancient epics, accompanied by traditional music and voices. Dikir Barat is a form of traditional Malay vocal music that involves group chanting, typically performed in a rhythmic and melodic style. It often includes elements of poetry, praising religious or cultural themes, and is commonly performed during festive and cultural events.

Min House Camp not only functions as a recreational venue but also serves as a comfortable accommodation option, especially beneficial for individuals who need to be close to Hospital Universiti Sains Malaysia. Its strategic location, within a 2 km radius, makes it an optimal choice for long-term patients in search of a peaceful setting. The camp's association with Kelantan’s Down Syndrome Association, led by the owner serving as its President, emphasizes its sincere dedication to community involvement.

2. Literature Review

Much literature has been published on economic valuation studies using the Choice Experiment (CE) technique (Louviere et al., 2000). Various studies have highlighted the application of different valuation methods to assess the economic value of marine biodiversity, coral islands and national parks, in both developed and developing countries (Hearne & Salinas, 2002; Lindhjem & Navrud, 2008; Suwardi et al, 2020; Rani et al, Silva et al.,2022). However, in developing countries, this technique is still not well-known (Adamowicz et al., 1998). In the case of Malaysia, CE has been widely applied to value national parks, marine parks, and cultural-heritage sites by Jamal et al. (2004), Yacob et al. (2008), Chea (2016), and Bakar et al. (2018).

Jamal et al., (2004) conducted a study to help decision-makers determine the optimum management strategy using the CE technique in the Matang Mangrove Wetland in Perak. Here, CE was used to estimate the non-market value provided under different management options where they stratified a random sample of ethnic groups in three selected districts in Perak with a sample size of 571 respondents. Five attributes were used, namely; the environmental forest protected, the number of local people employed, the number of bird species protected, the price of visitation and trust fund contribution. The results showed that on average, non-consumer households were willing to pay a sum of RM 12.70 a year to achieve a better alternative scenario. The results have proven that this CE approach can be successfully used in a developing country as long as the choice sets are carefully developed, and the effective collection of field data is undertaken.

In a separate study by Yacob et al. (2008), they estimated the value of ecotourism resources at Redang Island Marine Park using the CE approach. There are two parts of the management properties which include the marine park area and the ecotourism facilities and services. The author used the conditional logit (CL) model and mixed logit (ML) model to analyze the data. The findings show that socio-economic variables such as age, gender, education and income contributed to visitors' preferences. For the marine park area, the ML model showed a slight improvement in explanatory powers as compared to the CL model while for the ecotourism facilities and services, the CL model was better than the ML model regarding explanatory power. Hence, this application of CE to value ecotourism in the case of the Marine Park in Malaysia can be used as the benchmark for ecotourism operators and management authorities to improve operations and policy development.

A study by Chea (2016) estimated the economic benefit of 'living heritage' in Melaka city using the CE method. Here, there were four attributes identified namely living heritage, natural environment, crowded recreational activities and the heritage charge value. A sample size consisting of 502 responses was used for this study. The findings showed that the respondents had a positive WTP for all the attributes which would help to provide valuable insights into the value of this unique heritage site for both the community and society.

In another study, Bakar et al. (2018) estimated visitor's preferences towards the improvement in ecotourism and management in Kubah National Park (KNP) by utilizing the CE technique. There were five attributes of ecotourism and management used in their study namely amenities, information provided, availability of an interpretive trail, availability of a park guide and entrance fee charges. The CL model was used to analyze the data using a sample size of 303 respondents. The findings indicated that respondents were WTP to support the changes or improvements in the current management condition which were currently being provided at a reasonably basic or low level.

3. Research Methodology

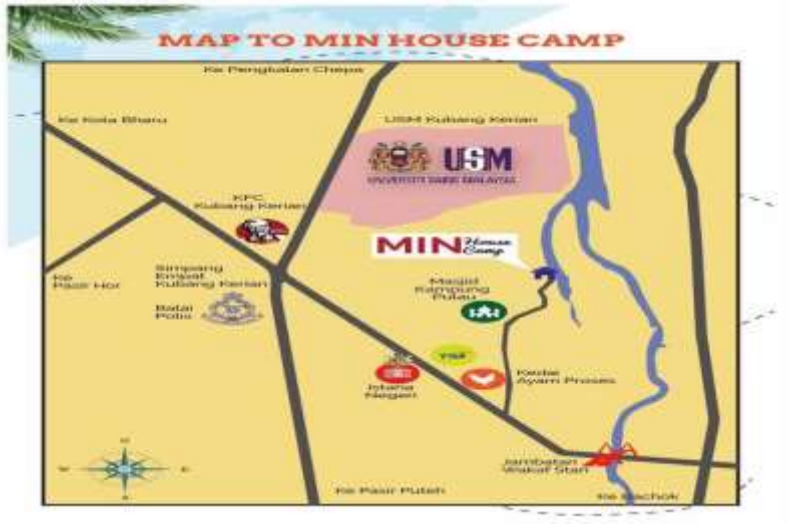
Study Area

The research in this study was centered around Min House Camp (MHC) which is located at Kampung Pulau, Kota Bharu, Kelantan next to the Pengkalan Datu River (see Figure 1). Kota Bharu can be described as a concentrated city located in the most ruralized part of the northeast of Peninsular Malaysia. As the Malaysian government is concerned with the development and operation of the ecotourism industry, this study has focused on West Malaysian rural ecotourism sites as several government initiatives presently promote eco-tourism destinations in this region, particularly in Kelantan (Habibu, 2018). Furthermore, this is one of the main reasons why this rural ecotourism destination in Kelantan was selected, given its location and being categorized as Community-Based Ecotourism (CBE). More importantly, MHC is also recognized as a research center, for studying the stingless bee species by several local and international universities. In 2018, among fourteen Malaysian organizations, MHC won the ASEAN Tourism Award from the Kelantan state, as it fulfilled the Green Hotel Standard. The ASEAN Tourism Award recognizes ASEAN's best sustainable rural or urban tourism products that are proposed and implemented by public and private sector stakeholders who have collaborated and worked together for the benefit of their respective areas/destinations.

The compound area of the MHC houses a variety of facilities ranging from chalets, a multipurpose hall, a bee farm, a firefly garden, an organic farm, and a mini petting zoo and even hosts water sports activities such as kayaking, river bathing, fishing and clam digging. Free Wi-Fi is also available in the area. The accommodation arrangements comprise 2 units (attached houses) with 3 rooms (for 13 max), 2 units attached with 2 rooms (9

pax), and 2 units attached with 1 room (4 pax max). Floating river rooms are also available (max 2 pax) and 1 traditional small hut (max 3 pax) with a shared bathroom. Besides that, there are two types of dorms which are basic and standard that are offered particularly for backpacker visitors who require budget accommodation. Peak season is during public and school holidays where many student groups visit and camp overnight as the compound also provides a camping area. One of the exciting highlights after dark is to watch fireflies where visitors are taken on a boat ride to witness the beautiful fireflies that naturally light up the local surroundings. The boat ride for firefly-watching operates from 8 pm until 11 pm. Besides that, visitors can also engage in the many cultural activities that are offered including handicraft-making, cooking lessons, traditional games and watching cultural heritage performances such as the wayang kulit (shadow play) and dikir barat (a Kelantanese traditional dance).

Figure 1: Map of Research Sites (MHC)



Material And Methods

The choice experiment (CE) technique was first introduced by Louviere and Woodworth (1983). This technique uses a common theoretical framework with a dichotomous choice contingent valuation in the Random Utility Model (RUM) (McFadden, 1973). In CE these characteristics are known as attributes. For example, visitor *n* obtains utility from an alternative j over other choices in the choice set C, therefore:

$$U_{nj} = \max\,(U_{n1}, U_{n2}, U_{n3} \ldots . U_{nj})(i \neq j, \forall i, j \in C_n) \quad (1)$$

Their choices can be observed but cannot be measured directly. However, the true individual's utility U_{nj} can be stated as:

$$U_{nj} = V_{nj} + \varepsilon_{nj} \quad (2)$$

Where V_{nj} represents the measurable component of utility, which is independent of the observable attributes of alternatives including demographic information of the individual. $\varepsilon_{nj}$is a random component that captures the effect of unobserved and omitted influences on choices. Consequently, Equation 2 then becomes:

$$V_{nj} + \varepsilon_{nj} > V_{ni} + \varepsilon_{ni}(i \neq j)(i \neq j, \forall i, j \in C_n) \quad (3)$$

This shows that the ε_{nj} affects the utility of alternative j but cannot be observed. When this error term is treated as a random variable, and the visitor selects alternative j over another alternative I among a set of possible alternatives C, the probability can be presented as:

$$\begin{aligned} P_{nj} &= p\big(U_{nj} > U_{ni}\big) \quad (4)\\ &= p(V_{nj} + \varepsilon_{nj} > V_{ni} + \varepsilon_{nj})\\ &= p(V_{nj} - V_{ni} > \varepsilon_{nj} - \varepsilon_{ni})\\ &= (i \neq j, \forall i, j \in C_n) \end{aligned}$$

In this form, the utility function can be expressed as a linear function of the site attributes and can be presented as:

$$V_{nj} = \beta_1 + \beta_2 X_{nj2} + \beta_3 X_{nj3} \ldots . . + \beta_k X_{njk} \quad (5)$$

where X_{njk}measures the site qualities and β is the parameter.

The discrete choice model in the previous section becomes a CL model when the ε_{nj}Is assumed to be independently and identically distributed (IID) with an extreme value of type 1 Gumbel distribution. The probability of choosing *j* using this IID assumption becomes:

$$P_{nj} = \frac{\exp(V_{nj})}{\sum_i \exp(V_{ni})} \quad (6)$$

The maximizing likelihood function is then used to estimate the coefficients as stated in Equation 7, as:

$$logL(\beta) = \sum_{n=1}^{N} \sum_{j=1}^{J} y_{nj} \log\,[exp(\text{Vnj}\,) \,/\, \sum_{i=1}^{j} \exp\,(V_{nj})] \quad (7)$$

Where Y_{nj}Ll take the value of 1 if the visitor chooses j and 0 if otherwise. This is the most applied model for parameter estimation in CE studies (Adamowicz et al., 1998; Hanley et al., 2001; Haider et al., 2004). Indeed, it is mostly used due to the ease of estimation as compared to other models such as multinomial probit (Train, 2009).

To estimate the marginal effects of the changes for certain attributes, for example, attribute k, the computation of implicit price is appropriate. According to Bennett and Adamowicz (2001), implicit price explains the amount of money that visitors are willing to pay to obtain an additional improvement in the k attribute.
The function of this implicit price is:

$$\text{Implicit price or WTP} = \beta k/\varphi \quad (8)$$

Where βk is the parameter of the attribute and φ is the MU of income; the resulting value is shown in ratio terms. If the value is greater than zero, this means a positive monetary return to a visitor, while a negative value results in a monetary loss.

Identifying the Attributes and their Levels

Based on the previous literature review, this study uses CE design to understand the CBE in the MHC area. Choices of attributes and levels should be relevant to the policy-making process and must have meaning to the person who answers the choice set of questionnaires (Bennett and Blamey, 2001). This list was then presented to a focus group who were asked to indicate which attributes played an important role in determining consumer choice, and the group was also allowed to add additional attributes. In addition, several discussions were undertaken with the Department of Tourism Kelantan, local communities and volunteer visitors to discuss the attributes. Finally, five management attributes were agreed upon and a series of multiple choices to respondents such as involvement of the local community, package activity, accommodation facilities, information provided, and entrance fees. The preference attribute and level for CBE in MHC are shown in Table 1.

Table 1: Attributes and level of management in Min House Camp, Kubang Kerian

Variable	Level				Expected Sign	Explanation
	1	2	3	4		
CBE	No change	Increase 10%	Increase 20%	Decrease 5%	+	Utility increases as the level increases.
PAC	Normal	Premium	Super		+	Utility increases as the level increases.
FAC	Non-satisfactory	Satisfactory	Very Good		+	Utility increases as the level increases.
INFO	Low	Medium	High		+	Utility increases as the level increases.
PRICE	No Charge	RM 4.40	RM 4.80	RM 5.20	-	Utility reduces as the price increases.

Employment and Involvement of Local People

Based on the focus group discussion, the current level of jobs and involvement was set at 10% of the total population (Yacob, 2008) and was used as a base to determine the level of involvement in MHC. The attributes were selected based on the concept that CBE benefits the local community. The employment growth significantly creates an opportunity for the local economy, and therefore job opportunities are created for locals who live within the boundary of the ecotourism sites. Four levels were assigned to this attribute:

- No change.
- Increase 10%.
- Increase 20%.
- Decrease 5%.

Package Activity

The other attribute regards the package of activities. Three levels were chosen: normal, premium and super. The normal package offered by MHC was inclusive of accommodation, food and usage of multipurpose halls, while other activities such as firefly watching, kayaking, folk games, team building, traditional archery, organic farm, stingless bee farm and honey tasting were excluded. The premium package activity included a normal package with better accommodation, traditional food, and two additional activities, while the super package activity included comfort accommodation, and organic food with three additional activities. Three levels were assigned to this attribute:

- Normal activity packages.
- Premium activity packages.
- Super activity packages.

Accommodation Facilities

MHC currently offers various types of accommodation such as chalets and campsites. The improved provision of facilities is planned to increase the tourists' use of utilities such as the quality and the number of lockers, cleanliness of public washrooms, showers, café restaurants, and the parking area. Therefore, for this study set, three levels comprising the status quo were used. First, 'unsatisfactory: a low number of facilities provided such as no locker for dorm visitors with less cleanliness of public washrooms, showers, café restaurant and park area'. Second, 'satisfactory: this envisioned relatively better facilities including the provision of locker facilities for visitors who stayed in the dorm, with clean washrooms, showers, café restaurants and the surrounding park area. Third, 'very satisfactory: the best provision of the facilities, including lockers, water supply, washrooms, showers, café restaurant and the surrounding park area kept clean at all times. Three levels were assigned to this attribute:

- Unsatisfactory.
- Satisfactory.
- Very satisfactory.

Information Provided

The type of information presented was another important factor in the decision of where to recreate. Various levels of information are currently offered at the site as some tourists may need to be better informed while performing recreational activities. However, some tourists may be looking for more information about flora, fauna and park attractiveness. The additional information could be achieved through the availability of interpretive programs, proper positioning information boards, signboards and posters in the right place, where relevant brochures and pamphlets could also be made available. However, the effectiveness of this program depends on how well the visitors can obtain useful information inside the park itself.

Accordingly, this shows that the design of materials and their distribution and accessibility at appropriate places will determine how effective the information is and how it is used. Notwithstanding, the environment created could also help to create and encourage nearby residents to support nature protection in the nearby park and to reduce degradation of the nature park resources. Three levels were assigned to this attribute:

Low: Limited information, direction and sign only for management and safety purposes; informative paper, brochures and pamphlets are not well-organized in a specific place.
Medium: Better conditions, where directions and signs for management and user safety are provided in key intersections. Signs are easy to read and identifiable, park guards and educated guides provide information on nature and cultural activities.
High: The best level of providing information services, where directions and signs for management and safety are provided at intersections and near the camping area and restrooms. Park guards and guides act as one-on-one guides to visitors in the park, enlightening them on how to contribute to the sustainability of the park and the environmentally friendly use of the park using video presentations.

Marginal Entrance Fee

Although the entrance to the MHC was set as 'no charge' for local and international visitors, MHC managers were asked to reflect on the acceptability of introducing an entrance fee. The entrance fee would be used towards the management and maintenance of the park and building facilities. The paying of an admission fee would also give visitors the right to enter and utilize the facilities provided in the park. However, in this case, the payment vehicle attribute needed to be defined carefully so that all respondents could make real choices and, therefore, any hypothetical bias in the study could be reduced (Juutinen et al., 2011). Suggestions for the entrance fee included several possible payments of no charge, RM 4.40, RM 4.80, and RM 5.20, as:

- No charge.
- An increase of RM 4.40.
- An increase of RM4.80.
- An increase of RM5.20.

Experimental Design

A statistical software package (SPSS) was used to produce the orthogonal design. With this design, the levels of

different attributes were consequently reduced and allocated properly into each choice set. The last step was to pair the generated alternatives from the orthogonal design with the status quo or current scenario. Each set consisted of two alternatives and one current scenario in the CE questionnaire. For example, in Figure 2, the visitors were given a choice between two alternatives with costs of RM4.40 and RM5.20. The trade-off concerns whether increase jobs and involvement of local people to 10%, super package (Inclusive comfort accommodation, traditional food and hall usage (only necessary) + 2 additional activities), satisfactory accommodation facilities and high information provided rather than decrease jobs and involvement of local people to 5%, normal package (inclusive accommodation, food and hall usage for student and university only), satisfactory accommodation facilities and medium information provided. Moreover, before each choice card, the following statement was made, "suppose Figure 2 represents the scenarios of management to be available in Min House Camp. Please tick (√) your preference in the box".

Figure 2: Example of a choice card in the CE model questions

Management	Option A	Option B	Option C (Current Situation)
Employment to Local People	Increase 10%	Decrease 5%	No Change
Package Activity	 Super	Normal	Normal
Accommodation Facilities	Satisfactory	Satisfactory	Unsatisfactory
Information Provided	High	Medium	Low
Marginal Entrance Fee	RM4.40	RM5.20	No Charge
Your most preferred Option (Tick one box)	√		

Sample Design and Implementation

The experimental survey was conducted at Min House Camp from July to November 2019 with a sample size of 360 respondents. Convenience sampling was applied where local and foreign visitors who visited the MHC could be selected given their accessibility, convenience and proximity to partake in the questionnaire survey.

4. Results

A summary of the socio-economic profile of respondents is next presented in Table 2. The distribution of the sample respondents' gender was 42% for males and 58% for females. The total number of respondents was 360 with ages ranging between 18 and 72 years of age, with a mean age of 42 years. Regarding the respondents' education level, 17% of the respondents had completed primary school, 16% had completed secondary school, and with a degree certificate, 44% had a pre-university and diploma certificate, and 24% held a Master's and PhD certificate. As for marital status, 44% of respondents were currently single, 55% were married, and 1% of them were others. Most of the respondents were currently employed or seeking employment status; 53% and 36% respectively.

Table 2: Demographic and Geographic Information About Visitors in Min House Camp, Kubang Kerian, Kelantan

Variables	Frequency	Percentage (%)	Mean
Age (Years)			41.806
Income per annum			4240
Gender			
Male	151	42	
Female	209	58	
Education Level			
Primary School	62	17	
Secondary School	58	16	
Pre-University and Diploma	159	44	
Degree	57	16	
Master and PhD	24	7	
Work Status			
Employed	190	53	
Seeking Employment	129	36	
Retired	36	10	
Others	5	1	
Marital Status			
Single	158	44	
Married	199	55	
Others	3	1	

Conditional Logit Result

Table 3 shows the results of simple CL model conservation. Most of the variables in the model such as CBE2, CBE3, PAC2, PAC3, FAC2, FAC3, INFO2, INFO3 and PRICE are significant at a 1% and 5% significant level. Whereas CBE4 is not significant due to the visitors who are not in favor of reducing local people's employment by 5%, which is consistent with the finding of Yacob et al., (2008). As seen from the results, these variables are by a priori expectations. The positive coefficient in all the parameters except for PRICE implies that visitors have a higher preference for these levels as compared to the status quo (CBE1, PAC1, FAC1 and INFO1). Also, the coefficient for PRICE is negative which confirms that imposing a higher marginal entrance fee would lead to negative contributions towards satisfaction (UTILITY).

Table 3 also reports the marginal rate of substitution (MRS) of the management attributes for each level. Here, all the variables have positive values which means that most of the visitors are willing to pay slightly more with the improvement of the attribute levels. Accordingly, CBE2 and CBE3 have a value of RM 1.05 and RM 1.06 respectively. Next, PAC3 has a higher value of RM 1.03 than PAC2 valued at RM 0.49. FAC2 and FAC3 both have a higher value than the other variables of RM 1.41 and RM 2.52 and the values for INFO2 and INFO3 are RM1.52 and RM1.40 respectively.

Table 3: Simple CL Model for Management

Variables	Coefficients (β)	Std.Error	P-value	Marginal Value (RM)
CBE2	0.79858626	0.12406717	0.0000***	1.05
CBE3	0.80477956	0.15324741	0.0000***	1.06
CBE4	0.06227625	0.16322511	0.7028	0.08
PAC2	0.36783748	0.15814010	0.0200**	0.49
PAC3	0.78190266	0.23462752	0.0009***	1.03
FAC2	1.06477114	0.18904913	0.0000***	1.41
FAC3	1.91157652	0.21834423	0.0000***	2.52
INFO2	1.15233703	0.13407648	0.0000***	1.52
INFO3	1.05759440	0.17855798	0.0000***	1.40
PRICE	-0.75745367	0.16298409	0.0000***	

Summary statistics	
Number of observations	1440
Log-likelihood function	-1196.845
Log-likelihood function no coefficients	-1289.8753
Chi-Squared	186.0606
Pseudo- R^2	0.07212
Adjusted Pseudo- R^2	0.06889

NOTE: *** Significant at 1% and ** 5% level

In the interaction model, the best-fit model for the CL interaction model for management is shown in Table 4. The likelihood ratio value increased to 365.6886 as compared to the simple model which was 186.0606. This value is also compared to the critical chi-squares value of 40.289 ($X^2_{(0.01, 22)}$). The model chi-squared statistic displays satisfactory results, thus, rejecting a null hypothesis that indicates the coefficients are statistically, significantly different from zero. The increase in pseudo-R2 values also confirms the improvement of this model. This value has slightly increased from 0.07212 to 0.14175 which shows the interaction model is more precise. There are some notable features of the variables in this interaction model for the management attributes. In Table 4, eight main attributes are found to be significant at a 1% level and with the expected sign. In a comparison of this model with the previous simple model in Table 4.20, it shows that CBE4 is still not significant although having a positive coefficient which is consistent with the findings by Yacob et al., (2008). Therefore, this indicates that strong relationships are affecting the interaction variables to the main attributes.

Regarding the interaction variables, most of them are significant at the 1% level. The negative sign of all age coefficients (CB2_AGE) shows that young people were more inclined compared to older people to support the employment of local people at a 10% increase in employment. Next, the negative sign of the age coefficients (PC2_AGE and PC3_AGE) shows that young people were more inclined compared to older people to support either “premium package activity” or “super package activity”. Furthermore, the negative sign of FC2_AGE also shows that young people were more inclined to support satisfactory accommodation facilities. The positive sign of PC3_INC and FC2_INC indicates that a higher level of income contributes positively to support “super package activity” and “satisfactory accommodation facilities”. Also, the medium information provided and associated with employment has a negative relationship (IN2_WORK) indicating that full-time employment does not support the provision of information at the medium level. Likewise, FC2_EDU indicates that people who have a higher level of education tend to support satisfactory accommodation facilities and the negative sign of gender with the upgrade package activity (PC3_GEN) indicates that females have a higher preference than males in supporting the super package activity.

Table 4: CL Interaction for Management Models Results (Model 6)

Variable	Coeff.	Std. Err	P-Value	Marginal Value (RM)
CBE2	3.454	0.550	0.0000***	3.54
CBE3	0.922	0.164	0.0000***	0.94
CBE4	0.080	0.168	0.6351	0.08
PAC2	2.221	0.609	0.0003***	2.27
PAC3	4.509	0.726	0.0000***	4.62
FAC2	1.387	0.651	0.0331**	1.42
FAC3	1.976	0.226	0.00008***	2.02
INFO2	2.814	0.240	0.0000***	2.88
INFO3	0.781	0.186	0.0000***	0.80
PRICE	-0.976	0.180	0.0000***	-
CB2_AGE	-0.056	0.012	0.0000***	-0.06
PC2_AGE	-0.051	0.012	0.0000***	-0.05
PC3_AGE	-0.079	0.015	0.0000***	-0.08
FC2_AGE	-0.031	0.011	0.0058***	-0.03
PC3_INC	.637556D-04	.348417D-04	0.0673*	0.00
FC2_INC	.948532D-04	.395427D-04	0.01658**	0.00
IN2_WORK	-0.918	0.112	0.0000***	-0.94
FC2_EDU	0.060	0.022	0.0073***	0.06
PC3_GEN	-0.402	0.215	0.0609*	-0.41
No. of observation	1440			
Log-likelihood	-1107.031			
Log-likelihood function no coefficients	-1289.8753			
Chi-Squared	365.6886			
Pseudo- R2	0.14175			
Adjusted Pseudo- R2	0.13605			

Significant at ***1%, **5% and *10% level

Welfare measure (Marginal Value)

The marginal values for both CL simple and interaction models are shown in Table 3 and Table 4 respectively. According to Siebert (2008), the marginal rate of substitution shows the WTP of respondents based on their (truly revealed) preferences. To measure the average WTP of the respondents, the β value of this attribute is divided by the β value of price. The marginal value can be called 'implicit price' which explains the amount of money that visitors are willing to pay to obtain an additional improvement in k attribute (Bennett and Adamowicz (2001). For example, The MWTP of 'No Change' (10% of the total population) to 'increase 20%' regarding the issue of involvement and job employment of the local community is RM 3.54. Here, the respondents are willing to contribute as much as RM 3.54 on average to support employment and involvement of the local community by up to 20%. Next, the MWTP of 'increase 20%' to 'increase 30%' is RM 0.94. This indicates that the respondents value the improvement of 'increasing 30%' in employment and the involvement of local people is the least. Last, the low relative value of 'increase 30%' shows that the respondents most preferred an increase to 20% for involvement and employment of the local community in MHC.

For, package activity, the MWTP of the 'normal' package to 'premium' is RM 2.27. Here, the respondents are willing to pay an average of RM 2.27 for the premium package to ensure better accommodation, traditional food, free hall usage, and two additional activities. The MWTP of the 'premium' to the 'super' package is RM 4.62. Here, the respondents are willing to pay more; RM 4.62 for the 'super' package to ensure better accommodation, organic food, free hall usage and three additional activities. Next, the MWTP of 'non-satisfactory' to 'satisfactory' accommodation facilities is RM 1.42. Here, the respondents are willing to pay on average RM 1.42 for satisfactory accommodation facilities. In this case, 'satisfactory' includes the better provision of locker facilities for visitors who stay in a dorm, upgraded washrooms, showers, café restaurants and the surrounding park area. Next, the MWTP regarding the 'satisfactory' to 'very satisfactory' packages is RM 2.02. Here, the respondents are willing to pay slightly more; RM 2.02 for 'very satisfactory' accommodation facilities in MHC. 'Very Satisfactory' means the best provision of facilities including lockers, water supply, washrooms, showers, café restaurants and the surrounding park area always kept clean.

Lastly, the MWTP for the information provided from 'basic' to 'medium' is RM 2.88. The respondents here are willing to pay on average RM 2.88 for 'medium information' which includes directions and signs for management and user safety provided at key intersections. Also, the signs are easy to read and are identifiable, plus park guards and educated guides provide information on nature and cultural activities. However, the respondents are willing to pay a lesser amount for 'high information' which is RM 0.80. This means that the respondents are more supportive of the effort of providing 'medium' rather than 'high' information. The reason for the low relative value of 'high' information is that the improvement of 'medium' information provided is relatively sufficient for the MHC visitors.

Discussion

Based on the CE model, this study analyses tourists' preferences for CBE and related activities as well as their MWTP four management attributes of the ecotourism destination at MHC namely, involvement of the local community, packages activity, accommodation facilities, and information provided. This study uncovered tourists' preferences for potential CBE tour packages in communities adjacent to the protected area. Based on the empirical results model, the most important attributes were found to be 'super' package activity, followed by an increased 20% involvement and employment of local people, very good accommodation facilities and medium information provided. Indeed, the findings of the CE results are consistent with the previous literature by Yacob et al., (2008), Mohamad (2014), Juutinen et al., (2011) and Bush et al., (2008).

5. Managerial Implications and Recommendations

For policy implications, business owners or local managers may consider adopting the concept of CBE in the future and focusing on the key attributes identified in this study. Moreover, local communities and other stakeholders should be encouraged to implement new tour package programs identified in the MHC area. For example, park management could develop better combinations of tour features. The ideal combination would involve visitors enjoying superior activities with the involvement and employment of the local community.

Conclusion

The objectives of this study are to discover tourists' preferences for various attributes of ecotourism tours. These aspects should be highlighted to meet future market demand. Furthermore, it may be beneficial to segment the market based on tourist preferences and needs and to set budgets for ecotourism management in protected areas accordingly. For future studies, the application of a mixed logit model could be considered to account for the multiple possible attributes of community ecotourism tours in protected parks.

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