Exploring Antecedents of Destination Loyalty: A Comprehensive Analysis of Island Destination Image, Brand Awareness and Satisfaction

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Abstract: This study examines the antecedents of destination loyalty and its relation to destination image (cultural image, environmental image, and socio-economic image), brand image and awareness and destination satisfaction in island destinations. This study raises important questions concerning how cultural image, environmental image, socioeconomic image, destination brand image, destination brand awareness and destination satisfaction affect destination loyalty. This research attempts to identify (1) the effect of Destination Image on Tourist Satisfaction and (2) To examine the effect of Destination Image towards Destination Loyalty. The study empirically tests the predicted relationship by using a survey of 147 local tourists after the moving control order ended in Malaysia. Data were collected by a physical survey of 147 local tourists. The data were modeled with partial least squares structural equation modeling. Based on 147 valid responses processed with Smart PLS software, the results confirm most of the research hypotheses. The study reveals that destination brand awareness, environmental image, and environmental knowledge affect tourists at Tuba Island. However, the socioeconomic image doesn't significantly impact tourism satisfaction. Additionally, destination brand, destination image, and environmental image contribute to tourist loyalty at Tuba Island, with loyalty not being the main factor driving satisfaction or loyalty to the island. The findings are useful for all stakeholders of tourism development in Langkawi and Tuba Island, Malaysia.

Keywords: Tourism, Community-Based Tourism, Destination Loyalty, Tourism Satisfaction, Destination Loyalty

1. Introduction and Background

The abundance of natural assets and aesthetic appeal forms the foundation for tourism development. However, these natural environments are susceptible to environmental degradation, which can threaten the sustainability of tourist sites (Kocabulut et al., 2019; Lee & Jan, 2019). There is often a disparity between the increase in community wealth associated with tourism and a corresponding level of environmental awareness and self-sufficiency among community members. Notably, most island destinations are widely recognized tourist hotspots, yet there is still concern among policymakers on the need for responsible development within the framework of sustainable tourism. As such, the idea of sustainable tourism is postulated, to promote tourism development in a region (Asmelash & Kumar, 2019; Erol et al., 2022) by harmonizing three main pillars: the economy, the environment, and social considerations.

It is undeniable that the island tourism development can attract visitors, generate employment, and enhance local economies (Grilli et al., 2021; Deery et al., 2012). Notably, tourism contributes to job creation, enhances locals’ income, improves their quality of life, and even invigorates other economic sectors (Han et al., 2023; Alamineh et al., 2023). Subsequently, island tourism is also a catalyst for societal and cultural shifts, leading to favorable and unfavorable impacts (Grilli et al., 2021; Day, 2022). One such negative consequence is environmental degradation. For instance, diving activities have been linked to coral reef destruction (Firth et al., 2023; Huang & Coelho, 2017), while hotel construction in tourist spots often overlooks environmental conservation. Additionally, pollution from tourist activities further contributes to environmental harm to the marine and coastal areas (Huang & Coelho, 2017; Yıldırım et al., 2023).

Governments across the globe have long been leveraging tourism as a powerful engine for destination development. Of late, the focus has broadened to transform rural regions and tiny islands into coveted tourist destinations (Croes, 2016). These small islands are nature’s treasure troves, replete with an abundance of marine resources and diverse biodiversity. They serve as irresistible magnets to tourists who are eager to delve into and explore these natural wonders (Day, 2022). However, these areas are often plagued by issues such as pervasive poverty, underdevelopment, and poor quality of human resources, creating a unique set of
challenges that require careful management and sustainable solutions (Grilli et al., 2021). In addition to their environmental attractiveness, these tiny islands also provide a vibrant backdrop of rich culture and intricate social interactions that are deeply ingrained within their local communities (Zhang et al., 2020).

This study is focused on identifying the environmental, economic, and social consequences of the booming tourism development on the Tuba Islands. The study assumes that the local community's socio-cultural values could potentially shield them from the negative repercussions of tourism. Hence, the newly evolving notion of sustainable tourism needs to be introduced in the tourism sector of smaller islands to preserve biodiversity and safeguard the traditional lifestyles of the locals. Furthermore, the engagement of the local community is crucial in the establishment of a sustainable tourism framework (Alamineh et al., 2023), considering they are the direct recipients of tourism's impact. As such, this research delves into the local wisdom of the Tuba Islands' communities regarding environmental conservation. This study is projected to design a model of community-oriented sustainable marine tourism that can be implemented in similar small island contexts.

This research specifically delves into the precursors of destination loyalty and explores its connection with various aspects of destination image - including cultural, environmental, and socioeconomic dimensions. In addition, the study also investigates how brand image, awareness, and satisfaction with the destination factor into destination loyalty, particularly in the context of island tourism. The study aims to make a valuable contribution by shaping a model for community-based sustainable tourism, specifically designed for small islands in Malaysia. This model leverages local community involvement, promotes environmental preservation, and harnesses cultural and socioeconomic factors to enhance the overall tourist experience and destination loyalty.

The objectives of this study align with the United Nations World Tourism Organization (UNWTO)'s reference to three specific SDGs set for 2030: the 8th goal (decent work and economic development), the 12th goal (responsible consumption and production), and the 14th goal (life below water). This alignment is of particular significance considering that marine tourism constitutes the largest segment within the tourism sector. Consequently, efforts geared towards the conservation and preservation of marine resources become a crucial agenda in realizing sustainable tourism. In essence, a holistic approach to tourism—incorporating economic prosperity, environmental preservation, and social well-being—stands as the key to building a sustainable future for the sector.

The structure of this paper is as follows. In the subsequent section, a detailed review of existing literature on community-based tourism is presented, offering a comprehensive context for the study. This is followed by an in-depth description of the research methodology, with a particular focus on the data collection process and the measurement of variables. In the findings section, the research results are presented. Here, we employ descriptive statistics to articulate our results, complemented by discussions on qualitative questionnaire responses to provide nuanced insights into the data. Finally, the concluding section of the paper encapsulates the main findings, discussing their implications and drawing conclusions based on the research objectives and results.

**Study Setting:** Tuba Island in Malaysia has garnered significant attention as a well-known travel spot among both local and international visitors. As such, the government has been constantly investing in the improvement of amenities and infrastructure on these islands to cater to tourism demands. Located five kilometers southwest of Kuah Jetty, Langkawi, Tuba Island is a secluded place, boasting a traditional fishing community, unique fauna and flora, and various homestays for visitors. The inhabitants lead a predominantly conventional way of life on the island, regularly heading into the forest-covered hills to collect medicinal herbs, fruits, and honey, besides their routine fishing and farming activities (Ariffin et al., 2022). However, the exponential rise in the construction of hotels and resorts to meet the demands of tourists is also leading to environmental degradation on this Island of Tourism (Limbong & Soetomo, 2014).

Tuba Island is renowned for its rich biodiversity, offering a wealth of natural attractions such as expansive marine ecosystems and untouched rainforest habitats. Historically, it served as a crucial navigation point, providing water and supplies to fishermen and travelers. One key consequence of being a popular mass...
tourism destination is the resulting human-induced marine and coastal pollution, mainly due to wastewater discharge from human settlements and ineffective waste disposal methods. The increase in recreational activities, primarily due to the tourism boom on nearby Langkawi Island, which exposes Tuba's ecosystem to escalating human-induced impacts (Chemli, 2018). The local community grapples with numerous developmental challenges related to tourism, spanning ecological, sociocultural, and economic aspects. These range from natural degradation, pollution, and overextension of coastal areas, to improper waste management (Kocabulut et al., 2019; Matias et al., 2022). Unregulated visitation and overuse of beaches are also contributing to deteriorating beach conditions and loss of biodiversity (Kocabulut et al., 2019; Lucrezi et al., 2015; Williams et al., 2016).

As Langkawi’s population grows, the repercussions extend to Tuba Island, necessitating thorough studies to support marine conservation efforts. Tuba Island’s escalating population makes it a critical subject for further research and in-depth feasibility studies. Promoting sustainable use of Tuba Island’s coastal resources entails community involvement in conserving these natural resources and their environment. Many past researchers called for local authorities to prioritize residents' quality of life, as their perception greatly influences their willingness to support sustainable tourism initiatives (Alamineh et al., 2023). This situation raises critical questions about mitigating tourism's impact on Tuba Island and how it affects locals' quality of life. Understanding the residents’ perceptions of these developments is key, and responsible tourism might be a viable solution to enhance their quality of life. Therefore, an empirical investigation is necessary, particularly examining responsible tourism from the residents' perspective, an area currently underexplored.

2. Literature Review

Sustainable Community-Based Tourism: It's crucial to note that the impact of tourism isn’t confined to positive aspects alone. In numerous instances, it can result in the marginalization of local communities and generate other adverse societal consequences. The global trend in tourism has evolved significantly; economic growth isn’t the sole focus anymore (Kocabulut et al., 2019; Yildirim et al., 2023). Factors such as environmental degradation and social deterioration caused by tourism activities have necessitated a shift in the paradigm of tourism management (Athula Gnanapala & Sandaruwani, 2016; Matias et al., 2022).

Policymakers and the community need to grasp the dual nature of tourism. On one hand, it can be individualistic, hedonistic, and even exploitative, yet on the other hand, it serves as a conduit for education, cross-cultural interaction, ecological appreciation, and even spiritual growth (Higgins-Desbiolles, 2018). Hence, a balanced view of these dual aspects should guide the tourism paradigm. The concept of sustainable development gained prominence and subsequently became the dominant paradigm in tourism development and management (Ruhanen et al., 2015). This shift was reinforced by the United Nations’ formulation of Sustainable Development Goals (SDGs), giving rise to measurable indicators for sustainable tourism that emphasize a balance between environmental, economic, and social dimensions (Boluk & Rasoolimanesh, 2022; Pan et al., 2018).

Tourist Satisfaction and Destination Loyalty: Understanding and measuring tourist satisfaction hinges significantly on various influential elements, including cultural and demographic factors, tourist behavioral traits, destination qualities, and travel information, among others (Shahrivar, 2012; Prasad et al., 2019). The importance of satisfaction in forecasting future tourist needs and desires has been underscored by several studies (Balderas-Cejudo & Patterson, 2023; Gibson & Yiannakis, 2002; Jani & Han, 2014; Tran & Ralston, 2006). In addition, Ramesh and Jaunky (2020) posit that tourist satisfaction plays a pivotal role in assessing the effectiveness of marketing strategies as it influences choice, consumption of products and services, and the decision to revisit. However, defining tourist satisfaction within the tourism sector continues to be a subject of extensive debate (Prasad et al., 2019). Tourist satisfaction at a specific destination can be influenced by a myriad of factors, including pre-existing and in-trip expectations and the perceived service quality experienced by the tourist (Xingjun, 2022).

Past research has established a strong link between tourist satisfaction and their loyalty towards a
Essentially, when the expectations of tourists are met or exceeded, it engenders a sense of loyalty towards the visited destination. This relationship is fundamentally reciprocal - the higher the level of satisfaction, the stronger the loyalty (Ekanayake & Gnanapala, 2016; Hikmah et al., 2018). In addition, Melo et al. (2017) corroborate this finding, highlighting those tourists who leave a destination with high satisfaction levels are significantly more likely to revisit compared to those with lower satisfaction levels. This observation emphasizes the crucial role satisfaction plays in fostering repeat visits to a destination.

The significance of tourist satisfaction transcends repeat visits. Numerous studies within the tourism industry suggest that the degree of a tourist's satisfaction serves as a reliable predictor of their likelihood to recommend the destination to others (Hultman et al., 2015). Ragab et al. (2019) support this view, stating that tourist satisfaction positively and significantly influences both positive word-of-mouth and the intention to return. According to (Liu et al., 2017), high customer satisfaction levels and a favorable image of the destination greatly impact the behavioral intentions of tourists during their stay. Simply put, tourists are more inclined to revisit a destination that brought them joy and share their positive experiences with others (Lai, 2018).

This relationship between tourist satisfaction and destination loyalty was further examined by Mohamad and Izzati (2014) in a survey involving 261 European tourists. Their findings reinforced that tourist satisfaction directly influences loyalty towards a destination. In essence, highly satisfied tourists were not only likely to return but also willing to positively endorse the destination to others, further boosting its reputation (Wasaya et al., 2022; Zou et al., 2022). This conclusion underlines the key role of satisfaction in fostering destination loyalty, generating positive word-of-mouth, and ultimately, ensuring sustainable success in the tourism sector.

Hypotheses Development: Research such as (Hashemi et al., 2019) highlights a positive correlation between cultural image and both tourist satisfaction and their propensity to revisit. Rahim et al. (2022) further substantiate this by stating that the cultural image encompassing heritage and social lifestyles can entice tourists to experience a country’s cultural and historical richness. Cultural image, as noted by Chieng (2019) and Wells and McFadden (2006), forms impressions and experiences, shaping tourists' interpretation of a place's culture, ethics, fashion, language, architecture, food, arts, and music. In addition, Huete-Alcocer & Hernandez-Rojas, (2022) research found that local cuisine contributed to an image that enhances tourists' desire to revisit a destination. Similarly, Hidayat et al. (2020) express that local festivals also influence tourist satisfaction. Additionally, Kladou and Kehagias (2014) emphasized that cultural brand assets, including events, arts, historical sites, and traditions, significantly impact the destination’s brand image. According to Lee and Xue, (2020), preserving cultural image is crucial for sustaining a community's identity and attracting tourists, particularly those seeking self-enhancement and self-awareness. Therefore, the cultural image remains a key player in ensuring satisfaction and loyalty among tourists.

On the other hand, environmental image quality is linked to tourist loyalty and satisfaction (Lai, 2018). According to McKercher et al. (2015), tourists spend more time in areas with better environmental conditions and less in those with high air pollution levels. Meng and Cui’s (2020) studies indicate that an excellent environmental tourism experience fosters a desire for revisits and is linked to tourists' willingness to recommend that destination. Wong et al. (2021) suggested that maintaining a positive environment and upholding sustainable tourism standards can significantly enhance visitor satisfaction and loyalty. Chen and Phou (2013), Rajesh (2013) and Rosli et al. (2023) note that a destination's environmental image greatly influences tourist satisfaction. For example, Qu et al. (2019) found that environmental factors like air pollution can negatively impact tourism, limiting tourist activities, and leading to unsatisfying experiences, thereby compromising satisfaction (Nawijn & Peeters, 2010; Grilli et al., 2021)). Hence, the preservation of the destination’s natural environment is critical. Moreover, a better environment will not only contribute to tourist satisfaction but also improve local support for tourism activities (Han et al., 2023). This shows the profound influence of environmental image on tourist satisfaction and loyalty.

Meanwhile, in terms of socioeconomic image, sustainable tourism often equates to increased employment opportunities and business ventures (Almeida-Garcia et al., 2016; Ribeiro et al., 2017; Woo et al., 2015). Lee
and Xue (2020) mention that it also aids in building local facilities and infrastructure, elevating community living standards, and promoting local products and services. However, tourism's impact is not exclusively positive. It may result in an increased cost of living (Vargas-Sanchez et al., 2011), traffic issues, criminal activity, environmental pollution, biodiversity damage, and landscape changes (Andercek et al., 2005; Bujosa & Roselló, 2007; Razali et al., 2016). Despite these challenges, well-managed tourism can bring about positive socioeconomic effects, such as enhancing cleanliness, protecting marine life, improving community income, creating job opportunities, and upgrading basic facilities (Syaripudin, 2016; Salleh et al., 2017). However, it can also cause dissatisfaction due to negative socioeconomic factors such as inflated prices (Gnanapala & Sandaruwan, 2016; Kidane & Berhe, 2017). This underscores the need for effective management to balance the socioeconomic image's influence on tourist satisfaction and loyalty. Therefore, the hypotheses are formulated as follows:

**H1a**: Cultural Image has a positive effect on Tourist Satisfaction.

**H1b**: Cultural Image has a positive effect on Destination Loyalty.

**H2a**: Environmental Image has a positive effect on Tourist Satisfaction.

**H2b**: Environmental Image has a positive effect on Destination Loyalty.

**H3a**: Socioeconomic Image has a positive effect on Tourist Satisfaction.

**H3b**: Socioeconomic Image has a positive effect on Destination Loyalty.

Recent researchers highlight the role of brands as pivotal elements in facilitating interaction between a company and its consumers (Intan et al., 2022; Matiza, 2022). The brand image holds significance for both the business and the tourist, as per Malik, Ghafoor and Iqbal (2012), suggesting that a robust brand image can enhance customer satisfaction. Supporting this, Su and Kerdpitak (2023) highlighted that brand image positively influences customer satisfaction. Similarly, Pratama et al. (2023) emphasize the importance of brand image in shaping customer satisfaction. In addition, Allameh et al. (2015) and Stylos et al. (2016) propose that a positive destination image elevates tourists' satisfaction and thus heightens the likelihood of their return. Aksoy and Kiychi (2011) break down destination image into two components: cognitive image, representing the mental perception based on information received about the destination, and affective image, representing the tourist’s emotional response towards the visited destination. The fusion of these elements forms the overall image of a destination. According to Hasan et al. (2017), visitors who are satisfied with the quality of services and their overall experience develop positive attitudes and show a higher propensity to return. Such attitudes, driven by satisfaction, augment customer loyalty and behavioral intent (Choi & Choo, 2016).

Meanwhile, brand awareness has been a recurrent theme in studies on tourists' behavior. Barreda et al. (2016) underscore that brand awareness, indicating the degree to which tourists can recall and recognize a destination's brand, initiates the process of gathering information about a brand. This process necessitates recall and recognition of the brand (Konecnik & Gartner, 2007; Almeida-Santana & Moreno-Gil, 2018; Intan Nurhayati et al., 2022; Qu, Dang & Gao, 2022). The strength of brand awareness is closely tied to the brand's memory strength and the customers' ability to recall various aspects of the brand in different contexts, such as the brand name, logo, symbol, character, packaging, and slogan (Keller & Brexendorf, 2019). Notably, research indicates that a customer's knowledge of a brand significantly affects their satisfaction levels and empirical studies suggest that brand awareness profoundly influences brand loyalty (Kim, 2018) and brand image (Barreda et al., 2016). Notably, Barreda et al. (2016) found that brand awareness affects customer preferences, purchase decision-making processes, brand commitment, and the ability to predict consumer behavior in the marketplace. Therefore, a high degree of brand awareness might lead to increased customer loyalty and purchase intent; Wasaya et al., 2022).

Therefore, the hypotheses are formulated as follows:

**H4a**: Destination Brand Image has a positive effect on Tourist Satisfaction.

**H4b**: Destination Brand Image has a positive effect on Destination Loyalty.

**H5a**: Destination Brand Awareness has a positive effect on Tourist Satisfaction.

**H5b**: Destination Brand Awareness has a positive effect on Destination Loyalty.
3. Research Methodology

The research methodology employed in this study aims to examine the factors influencing destination loyalty in an island destination context, specifically focusing on the roles of destination image components (cultural image, environmental image, socioeconomic image), brand image, brand awareness, and destination satisfaction. The study's objectives revolve around investigating the effects of destination image on both tourist satisfaction and destination loyalty. The study adopts a survey-based approach and utilizes partial least squares structural equation modeling (PLS-SEM) for data analysis. The study collected data through a survey administered to 147 local tourists. The data collection took place after the lifting of the Movement Control Order (MCO) in Malaysia, allowing the researchers to gather insights from actual visitors. The survey was conducted physically, which implies face-to-face interactions with respondents, ensuring a direct and personal data collection process. The collected data were analyzed using partial least squares structural equation modeling (PLS-SEM). PLS-SEM is a statistical method used to analyze complex relationships in models with multiple latent variables. This technique is particularly suitable for exploratory research and for assessing relationships within smaller sample sizes.

4. Results

Demographic Factors: The study surveyed 147 tourists who visited Tuba Island, Malaysia. Of the total, there is 73 (49.5%) of males and 74 (51.4%) of females. It showed that the balance of females and males were responses for this study. In the next analysis, it was found that most of the visitors who responded were aged from 41 years old and above (n=53, 32%) followed by the respondents who aged from 31- to 40 years old (n = 47, 36.1%). There were also respondents aged from 21 to 30 years old (n= 26, 17.5%) and only 21 of the respondents were aged less than 20 years old (n= 21, 13.3%). Moreover, the analysis indicated the majority of the respondents were from Malaysia (n=142, 92%) followed by China (n =50, 34.4%) and only 1 from Europe (n= 1, 0.7%). Finally, the marital status indicates that all of the respondents were married (n = 94, 63.9%), single 51 (34.7%) and only 2 (1.4%) were divorced.

Table 1: Demographic Analysis

<table>
<thead>
<tr>
<th>Demographic Factors</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>73</td>
<td>49.5</td>
</tr>
<tr>
<td>Female</td>
<td>74</td>
<td>51.4</td>
</tr>
<tr>
<td>Age</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Less than 20 years</td>
<td>21</td>
<td>13.3</td>
</tr>
</tbody>
</table>
**Measurement Model:** In assessing the measurement of the model, the data analysis was conducted on the reliability, convergent validity and discriminant validity of the scales. Table 2 illustrated that all the item loadings were greater than 0.5. as they indicate that the construct explains more than 50 percent of the indicator's variance, thus providing acceptable item reliability (Hair et al., 2019). In most common reliability analyses, Cronbach’s Alpha values are used to determine internal consistency, however, the result has been argued as Cronbach’s alpha is another measure of reliability that assumes similar thresholds of 0.6 (Nunnally & Bernstein, 1994). The threshold values for composite reliability (CR) should exceed 0.5 (Hair et al., 2019). The Average Variance Extracted (AVE) also recommends exceeding 0.5, which explains at least 50 percent of the variance of its items.

**Table 2: Convergent Validity**

<table>
<thead>
<tr>
<th>Construct</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Culture Image</td>
<td>0.902</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Destination Brand Awareness</td>
<td>0.568</td>
<td>0.814</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Destination Brand Image</td>
<td>0.493</td>
<td>0.652</td>
<td>0.827</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Destination Loyalty</td>
<td>0.368</td>
<td>0.508</td>
<td>0.579</td>
<td>0.941</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Environmental Image</td>
<td>0.209</td>
<td>0.263</td>
<td>0.445</td>
<td>0.621</td>
<td>0.783</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. Socioeconomic Image</td>
<td>0.012</td>
<td>0.109</td>
<td>0.384</td>
<td>0.444</td>
<td>0.659</td>
<td>0.724</td>
<td></td>
</tr>
<tr>
<td>7. Tourism Satisfaction</td>
<td>0.444</td>
<td>0.638</td>
<td>0.663</td>
<td>0.852</td>
<td>0.532</td>
<td>0.378</td>
<td>0.896</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Cronbach's Alpha</th>
<th>rho_A</th>
<th>Composite Reliability</th>
<th>Average Variance Extracted (AVE)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Culture Image</td>
<td>0.955</td>
<td>0.966</td>
<td>0.963</td>
</tr>
<tr>
<td>Destination Brand Awareness</td>
<td>0.758</td>
<td>0.847</td>
<td>0.854</td>
</tr>
<tr>
<td>Destination Brand Image</td>
<td>0.768</td>
<td>0.785</td>
<td>0.866</td>
</tr>
<tr>
<td>Destination Loyalty</td>
<td>0.957</td>
<td>0.957</td>
<td>0.969</td>
</tr>
<tr>
<td>Environmental Image</td>
<td>0.918</td>
<td>0.933</td>
<td>0.933</td>
</tr>
<tr>
<td>Socioeconomic Image</td>
<td>0.791</td>
<td>0.876</td>
<td>0.84</td>
</tr>
<tr>
<td>Tourism Satisfaction</td>
<td>0.877</td>
<td>0.884</td>
<td>0.924</td>
</tr>
</tbody>
</table>

The respective measurement items are illustrated in Table 2 (i) as the result revealed a test on discriminant validity of the constructs where AVE was squarely rooted to testify against the inter-correlations of the construct together with some other constructs in the model to ensure discriminant validity (Chin, 2010; Fornell and Larcker, 1981). This approach found that all the square roots of the AVE exceeded the correlations with other variables. Therefore, the discriminant validity of the data is accepted.
Structural Model: A bootstrapping analysis was conducted to assess the structural model which analyzed the R Square, and determine the t-values to identify the predict the factors of culture image, environmental image, socioeconomic image, destination brand image, destination brand awareness towards tourism satisfaction and destination loyalty. The R Square values of tourism satisfaction and destination loyalty were 0.592 and 0.539 respectively. The adjusted R Square was 0.523 which explained that 52.3 percent of the destination loyalty is explained by the factors.

Table 3: R Square

<table>
<thead>
<tr>
<th>Constructs</th>
<th>R Square</th>
<th>R Adjusted Square</th>
</tr>
</thead>
<tbody>
<tr>
<td>Destination Loyalty</td>
<td>0.539</td>
<td>0.523</td>
</tr>
<tr>
<td>Tourism Satisfaction</td>
<td>0.592</td>
<td>0.578</td>
</tr>
</tbody>
</table>

As shown in Table 3a, the result from structural model analysis found destination brand awareness (β=0.230, t-value= 2.704, p<0.05), destination brand image (β=0.215, t-value= 2.056, p<0.05) and environmental image (β=0.478, t-value= 5.977, p<0.05) were predictor of destination loyalty. The result was contradicted by the culture image (β=0.040, t-value= 0.547, p>0.05) and socioeconomic (β=-0.036, t-value= 0.441, p>0.05) were not predictors of destination loyalty.

Table 3a: Structural Model for Destination Loyalty

<table>
<thead>
<tr>
<th>Path Coefficient</th>
<th>Beta Value</th>
<th>STDEV</th>
<th>T Value</th>
<th>P Value</th>
<th>LL (2.5%)</th>
<th>UL (97.5%)</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Culture Image -&gt; Destination Loyalty</td>
<td>0.040</td>
<td>0.073</td>
<td>0.547</td>
<td>0.585</td>
<td>-0.094</td>
<td>0.195</td>
<td>Not Supported</td>
</tr>
<tr>
<td>Destination Brand Awareness -&gt; Destination Loyalty</td>
<td>0.230</td>
<td>0.085</td>
<td>2.704</td>
<td>0.007</td>
<td>0.095</td>
<td>0.430</td>
<td>Supported</td>
</tr>
<tr>
<td>Destination Brand Image -&gt; Destination Loyalty</td>
<td>0.215</td>
<td>0.105</td>
<td>2.056</td>
<td>0.040</td>
<td>-0.029</td>
<td>0.385</td>
<td>Supported</td>
</tr>
<tr>
<td>Environmental Image -&gt; Destination Loyalty</td>
<td>0.478</td>
<td>0.080</td>
<td>5.977</td>
<td>0.000</td>
<td>0.315</td>
<td>0.627</td>
<td>Supported</td>
</tr>
<tr>
<td>Socioeconomic Image -&gt; Destination Loyalty</td>
<td>-0.036</td>
<td>0.081</td>
<td>0.441</td>
<td>0.660</td>
<td>-0.161</td>
<td>0.145</td>
<td>Not Supported</td>
</tr>
</tbody>
</table>

As shown in Table 3b, the result from structural model analysis found destination brand awareness (β=0.357,
t-value= 3.921, p<0.05), destination brand image (β=0.262, t-value= 2.978, p<0.05) and environmental image (β=0.291, t-value= 5.087, p<0.05) were predictors of tourism satisfaction. The result was contradicted by the culture image (β=0.041, t-value= 0.555, p>0.05) and socioeconomic (β= -0.036, t-value= 0.553, p>0.05) were not predictors of tourism satisfaction.

### Table 3b: Structural Model for Tourism Satisfaction

<table>
<thead>
<tr>
<th>Path Coefficient</th>
<th>Beta Value</th>
<th>STDEV</th>
<th>T Value</th>
<th>P Value</th>
<th>LL (2.5%)</th>
<th>UL (97.5%)</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Culture Image -&gt; Tourism Satisfaction</td>
<td>0.041</td>
<td>0.074</td>
<td>0.555</td>
<td>0.579</td>
<td>-0.103</td>
<td>0.188</td>
<td>Not Supported</td>
</tr>
<tr>
<td>Destination Brand Awareness -&gt;</td>
<td>0.357</td>
<td>0.091</td>
<td>3.921</td>
<td>0.000</td>
<td>0.205</td>
<td>0.542</td>
<td>Supported</td>
</tr>
<tr>
<td>Destination Brand Image -&gt;</td>
<td>0.262</td>
<td>0.088</td>
<td>2.978</td>
<td>0.003</td>
<td>0.082</td>
<td>0.431</td>
<td>Supported</td>
</tr>
<tr>
<td>Tourism Satisfaction</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Environmental Image</td>
<td>0.291</td>
<td>0.057</td>
<td>5.087</td>
<td>0.000</td>
<td>0.166</td>
<td>0.395</td>
<td>Supported</td>
</tr>
<tr>
<td>Tourism Satisfaction</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Socioeconomic Image</td>
<td>0.036</td>
<td>0.066</td>
<td>0.553</td>
<td>0.580</td>
<td>-0.082</td>
<td>0.177</td>
<td>Not Supported</td>
</tr>
<tr>
<td>Tourism Satisfaction</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Discussion:** Based on the results, it shows that there is an effect of destination brand awareness, environmental image and environmental knowledge among tourists at Tuba Island. However, the socioeconomic image has not contributed to tourism satisfaction at Tuba Island. It also shows that destination brand, destination image and environmental image contributed to destination loyalty among tourists at Tuba Island. Loyalty is not the main contributor to satisfaction and tourist loyalty to visit Tuba Island.

Destination loyalty is deemed important for long-term success in achieving sustainable tourism. Sustainable tourism relates to socio and economic development that creates an impact as a result of the growth of destination loyalty in a destination. Yet, ensuring the image created for a destination is seen as an important factor for the growth of a tourism destination as this reflects the number of visitors and readiness for a destination to be a tourism destination. Image in terms of destination and environmental image are two factors that trigger several tourists to a destination.

Since the data collection was conducted after Moving Order Control (MCO) ended, and the border is yet to open to foreign tourists, this research is limited to local tourists only. It is suggested that future research can include foreign tourists to get different perspectives on destination loyalty in Tuba Island, Malaysia. Other than that, in-depth interview approaches can be applied to future research. Therefore, future researchers should focus more on foreign tourist perspectives.

This study contributes to the body of knowledge by creating new empirical evidence, especially in the context of Tuba Island, in Malaysia. Furthermore, this study assists the government or tourism agencies in strategizing the tourism agenda for the country. Further study is in demand for enhancing the existing study as empirical studies related to destination loyalty often use a mix of quantitative and qualitative methods to identify the key drivers that affect tourist loyalty to a destination.

### 5. Managerial Implications and Recommendations

The study's findings carry significant implications for a diverse array of stakeholders deeply involved in the tourism, development in Langkawi and Tuba Island, Malaysia. These stakeholders encompass government bodies, tourism agencies, local communities, and businesses, each playing a pivotal role in shaping the destination's appeal, sustainability, and overall success as a tourist hotspot. The study underscores the significance of understanding destination loyalty for sustainable tourism growth. Armed with insights into the factors driving loyalty, stakeholders can engage in informed and strategic planning. This involves investing resources in initiatives that cultivate a positive destination image, enhance visitor satisfaction, and

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foster long-term loyalty. By avoiding overdevelopment and maintaining a balance between economic progress and environmental preservation, stakeholders can ensure that the islands continue to thrive as attractive and sustainable destinations.

These research findings also contribute to expanding the existing literature on sustainable tourism and destination loyalty. The findings can also be used as a key explanation apart from adding to the existing literature in the field of tourism sustainability and tourist satisfaction. Other than that, future research should encompass foreign tourists’ perspectives to obtain a comprehensive understanding of destination loyalty. This broader perspective can provide insights into how cultural and experiential factors impact loyalty, thereby enriching the understanding of visitor preferences and contributing to more effective strategies.

**Conclusion:** In conclusion, this study comprehensively explored factors influencing tourism satisfaction and destination loyalty in Tuba Island, Malaysia. Findings highlighted the positive impact of destination brand awareness, brand image, and environmental image on both satisfaction and loyalty. Cultural and socioeconomic dimensions had less significant effects on this study. Implications for policymakers, tourism agencies, and communities involve leveraging brand awareness and environmental image to attract and retain tourists while emphasizing environmental preservation. The limitation of the study, focusing only on local tourists post-MCO, opens the gateway for future research directions. The inclusion of foreign tourists promises to develop a better understanding by offering diverse perspectives and uncovering potential differences between local and international perceptions of destination loyalty. This research enhances understanding of tourists’ perceptions, and guiding strategies for sustainable tourism in Tuba Island and beyond. Integrating these insights into decision-making can enhance the resilience and prosperity of the evolving tourism sector.

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