Sustainable Tourism and Destination Brand Loyalty: Exploring the Roles of Brand Equity and Tourist Satisfaction in Bali

Pariwisata Berkelanjutan dan Loyalitas Merek Destinasi: Menjelajahi Peran Ekuitas Merek dan Kepuasan Wisatawan di Bali

Khrisna Triharyo
University of Indonesia
khrisna.triharyo@ui.ac.id

*Coresponding Author

ABSTRACT
Bali, as one of Indonesia's most prominent tourist destinations, is currently facing the challenges of overtourism, which threatens its long-term sustainability. Sustainable Tourism Practices (STP) have been introduced as a means to mitigate these negative impacts while ensuring continued tourism appeal. This study examines the relationship between Sustainable Tourism Practices (STP) and Customer Satisfaction using the Expectancy-Disconfirmation Model (EDM) as the theoretical foundation. While previous research has explored the direct link between STP and satisfaction, this study identifies a theoretical gap by incorporating EDM to explain how expectations formed by sustainable initiatives influence customer perceptions. The research aims to assess the impact of STP across four dimensions: environmental, economic, socio-cultural, and institutional on customer satisfaction in a tourism context. A quantitative approach is employed, utilizing Partial Least Squares Structural Equation Modeling (PLS-SEM) to analyze data collected through a structured questionnaire. 200 datasets are obtained from the tourists who recently visited Bali from 2023-2025 and analyzed through inner, outer model analyses as well as hypotheses testing using bootstrapping analysis. It is statistically proven that brand image and tourist satisfaction mediated the impact of four dimensions of sustainable tourism practices on brand loyalty with socio-cultural dimension exhibits the biggest effect. As the managerial implications of this resarch, it is suggested to Bali Tourism Board to initiate some campaigns in order to promote more about sustainable tourism practices in Bali as the effort that would lead into having robust brand equity as the key-driver of having satisfied and loyal tourists.
Keywords: Sustainable Tourism Practices, Consumer Satisfaction, Brand Equity, Brand Loyalty.

ABSTRAK
Bali, sebagai salah satu destinasi wisata terkemuka di Indonesia, saat ini menghadapi tantangan overtourism yang mengancam keberlanjutan jangka panjangnya. Praktik Pariwisata Berkelanjutan (STP) telah diperkenalkan sebagai upaya untuk mengurangi dampak negatif tersebut sambil memastikan daya tarik pariwisata tetap terjaga. Studi ini menganalisis hubungan antara Praktik Pariwisata Berkelanjutan (STP) dan Kepuasan Pelanggan menggunakan Model Ekspektasi-Diskonfirmasi (EDM) sebagai landasan teoritis. Meskipun penelitian sebelumnya telah mengeksplorasi hubungan langsung antara STP dan kepuasan, penelitian ini mengidentifikasi celah teoretis dengan mengintegrasikan EDM untuk menjelaskan bagaimana ekspektasi yang dibentuk oleh inisiatif berkelanjutan memengaruhi persepsi pelanggan. Penelitian ini bertujuan untuk menilai dampak STP pada empat dimensi: lingkungan, ekonomi, sosial-budaya, dan institusional terhadap kepuasan pelanggan dalam konteks pariwisata. Pendekatan kuantitatif digunakan, dengan memanfaatkan Partial Least Squares Structural Equation Modeling (PLS-SEM) untuk menganalisis data yang dikumpulkan melalui kuesioner terstruktur. 200 dataset diperoleh dari wisatawan yang baru saja mengunjungi Bali pada periode 2023-2025 dan dianalisis melalui analisis model dalam dan luar, serta pengujian hipotesis menggunakan analisis bootstrapping. Secara statistik terbukti bahwa citra merek dan kepuasan wisatawan memediasi dampak empat dimensi praktik pariwisata berkelanjutan terhadap loyalitas merek, dengan dimensi sosial-budaya menunjukkan efek terbesar. Sebagai implikasi manajerial dari penelitian ini, disarankan kepada Bali Tourism Board untuk meluncurkan beberapa kampanye guna mempromosikan praktik pariwisata berkelanjutan di Bali sebagai upaya yang akan mengarah pada pembentukan ekuitas merek yang kuat sebagai pendorong utama kepuasan dan loyalitas wisatawan.

1. Introduction

The Tourism Industry in Indonesia is recovering at a great pace in Indonesia after the COVID-19 pandemic. This argument is based on number of foreign tourists who visited Indonesia during year 2021-2023 that can be observed in Table 1 below.

Table 1. Number of Foreign Tourists who Come to Indonesia from 2021-2023

Year	2021	2022	2023
Number of Tourists	1,557,530	5,889,031	11,677,825

Source: Indonesian Statistics Bureau (BPS, 2024)

As we can see on the table above that the number of tourists has always been increasing on more than 100% from 2021 to 2023. Based on above table, it is widely believed that Tourism Industry is still one of the most profitable industries in Indonesia that offers a quite fast recovery, even in post pandemic era.

On the other hand, the development of tourism industry, without any appropriate approach may lead into a phenomenon called "Overtourism". This term was invented by United Nations World Tourism Organization (UNWTO) and according to Chaney and Seraphin (2023) as well as defined by UNWTO, overtourism is the impact of tourism on a particular destination that influences the perceived quality of life of citizens and/or visitor in a negative way. Based on above statement, it is generally accepted that overtourism is one of the negative impacts of tourism development in a destination. As overtourism is considered as a negative impact of tourism development, a destination would have to strive to avoid this phenomenon to happen in order to maintain a great tourism experiences for the tourists as well as for the local resident.

Despite evolving travel trends and global disruptions, Bali continues to maintain its status as a premier tourist destination, offering a unique blend of cultural heritage and natural beauty (Liestiandre et al., 2024). However, recent events suggest that the island may also be facing challenges associated with overtourism. As reported by The Jakarta Post (2024), in May 2024, a Russian-owned narcotic drug factory was raided by local police. Additionally, News.com.au (2024) highlighted rising tensions between locals and certain Russian tourists, which escalated to the point where unofficial changes were made to Google Maps, renaming parts of Canggu as "New Moscow." These incidents indicate that the increasing volume of tourists may be impacting the island's social and cultural landscape, potentially jeopardizing Bali's perceived quality as a destination known for its local nature and traditions.

As the perceived quality of tourism in Bali might be put at risk by the overtourism phenomena, these occurrences may also lead to the diminishing effect of the brand equity of the tourism in Bali, as perceived quality is one of the elements of Brand Equity. According to Marshall and Johnston (2018), branding equity is a set of benefit that is linked to a brand's name and that adds the value provided by the brand. Additionally, As explained by Kotler and Armstrong (2017) brand equity is a distinctive effect that knowing the brand name has on the customer response to the product. Based on these two statements, having a robust brand equity would be important as having a strong yet positive brand equity would likely lead to having benefits for the marketing of tourism in Bali as well as increasing tourist's satisfaction in Bali.

Based on above statements that overtourism would likely affect the brand equity of Bali negatively, it is generally accepted that the phenomena of overtourism must be suppressed or restrained at the minimum level possible in order to maintain the brand equity of Bali. One of the ways to mitigate the negative effects of over tourism would be by practicing a sustainable tourism practice. According to UNWTO (2024), sustainable tourism encompasses practices that fully consider the current and future economic, social, and environmental impacts, while simultaneously addressing the needs of visitors, the industry, and the

environment. By the definition itself, sustainable tourism is one of the ways to prevent overtourism as sustainable tourism practice takes into account of the social effects of tourism in a region. As discovered by Mishra and Mishra (2024), sustainable tourism practices in Himalayan Region, are indeed effective to restrain overtourism phenomena as it has addressed the ecological, socio-cultural, and economics impact of overtourism.

In order to measure the effectiveness of sustainable tourism practices, UNWTO, as the highest governing body of tourism, has developed a firm statistical framework. As explained by UNWTO (2024), measurement of measuring sustainable tourism practice is divided into three dimensions which are economics, environment, and social. This framework was established as a solution to promote a progress and advancement toward sustainable tourism practice and might be a possible way to encounter overtourism phenomena.

Sustainable tourism practices in Bali could create some circumstances or nuance that possibly affect the tourist satisfaction there. According to Kotler et al. (2024), customer satisfaction is a feeling that comes from comparing the expectation from experiencing a product and the feeling after experiencing the particular product. This is further explained that a satisfied customer will stay loyal longer, pay less attention to the competition and talks favorably about the products. Previous study from Jasrotia et al. (2023), highlighted the important finding about how sustainable tourism practice impacted the tourist's satisfaction. Nevertheless, as explained in expectancy disconfirmation model (Solomon, 2018), expectation from a product is formed by our prior experience or association about the product that suggest certain level of quality. Brand equity, as stated by Hussain and Ahmed (2020), plays a big role to create the expectation from the customer that will be used as a parameter in determining the satisfaction, conforming with the expectancy disconfirmation model. Continuing on these arguments, a tourist's satisfaction would come first from the brand equity first instead of directly from an external initiative such as sustainable tourism practice. The previous research from Jasrotia et al. (2023) risks oversimplifying the journey toward tourist's satisfaction.

Having satisfied tourist in Bali, could also generate further benefit. As according to the previous interpretation of customer satisfaction, a satisfied customer will remain loyal longer. Hence, based on this clarification, having a satisfied tourist would likely lead into having a loyal tourist. As explained by de Freitas et al. (2023), loyal tourists bring some benefits to the destination as loyal tourists will repeat visit that generate a steady revenue stream and spread a positive word-of-mouth that will act as ambassador for the destination that will recommend to others about the destination. By these arguments, having loyal tourists would strengthen the position of Bali as one of the prominent world's tourist destinations that are competing globally.

To summarize, as there are some current phenomena in Bali that may lead into signs of overtourism in Bali, sustainable tourism practices in Bali would have to be executed to alleviate this problem. Despite the previous research result from Jasrotia et al. (2023) about sustainable tourism research and its benefit to create tourist's satisfaction, this research might have overlooked one of critical theoretical aspect of the Expectancy Disconfirmation model in creating satisfaction as this theory asserts that satisfaction roots from the comparison between customer expectation and actual experiences. Therefore, external initiatives like sustainable tourism practices would not directly generate satisfaction but rather influence brand equity element such as perceived quality, brand image, and brand awareness that will shape customer expectation and satisfaction. The omission reflects a significant theoretical gap as it underscores the requirement for a more refined understanding of sustainable tourism practices' role in tourism marketing.

Additionally, the current acute phenomena of overtourism in Bali, presents a practical challenge. The island that is celebrated for the beauty of its culture and nature has faced several challenges such as environmental degradation and diminished appeal. The most

updated paradox, Bali is simultaneously listed by Fodor (2025) as "No-Go" destinations list due to its current phenomena yet listed as one of the best destinations by TripAdvisor (2025) signaling a great crisis in its branding as one of world's leading tourist destinations. This oxymoron signals a clear indication that the sustainable tourism practices must be implemented in order to suppress this currently happening phenomena.

The thesis addresses these two critical gaps: the theoretical oversight of the Expectancy Disconfirmation Model in sustainable tourism practices and the ongoing crisis of branding in Bali's tourism, hence the author has chosen the topic "The Impact of Sustainable Tourism Practices Toward Destination Brand Loyalty with Brand Equity and Tourist Satisfaction as Mediating Variables in Bali" as the topic of this research. This research investigates on how brand equity and tourist satisfaction mediate the impact between sustainable tourism practices toward destination brand loyalty, contributing to both theoretical refinement and practical strategies for tourism marketing in Bali by providing actionable insight for Bali's Tourism stakeholder to balance the development and sustainable, ensuring long-term brand loyalty.

2. Literature Review
Tourism and Overtourism Challenge

Tourism, according to UNWTO (2024) is the social and economic occurrence related to the movement of the people outside their usual residence. Additionally, according to Weaver and Lawton (2014), Tourism is the continuous process between activities as well as the result emerging from the relationship between tourists, tourism suppliers, host, government, and local communities.

Sustainable Tourism Practices

While tourism development generates significant economic, cultural, and environmental effects, its negative consequences, particularly overtourism must be effectively managed. According to Koutsi and Sratigea (2023), controlling overtourism is critical in order to ensure the long-term sustainability of tourist destinations. Sustainable tourism practices and policies are essential in order to balance the needs of tourists while preserving the economic stability, cultural heritage, and environmental quality.

The Expectancy-Disconfirmation Model Theory

The Expectancy-Disconfirmation Model Theory as explained by Huh and Uysal (2013), is a cognitive theory that explains consumer satisfaction as a function of the difference between expectations and perceived performance. It is further explained that according to this theory, customers form an expectation before purchasing or using a product or service. After experiencing the product or service, costumers then will compare the actual performance with their initial expectations.

Brand Equity

Brand equity, as explained by Marshall and Johnston (2018), is a set of intangible benefits that is linked to a brand's name and that adds or diminish the value provided by the brand. Similarly, as explained by Chahal (2020), brand equity is the value of having a recognizable, reputable brand, encompassing a brand asset or liabilities linked to a brand name and symbol.

Tourists' Satisfaction

Lee et al. (2016) argue that tourists' satisfaction in the tourism industry refers to the degree which the services and experience provided by tourism business meet or exceeded the

expectations from the tourists. Similarly, Jasrotia et al. (2021) argues that tourists' satisfaction come from alignment of expectation and the actual experience of the tourists.

Destination Brand Loyalty

Brand loyalty, as mentioned by Khan et al. (2022), is a continuation of process after a customer feel satisfied by the products of a company, it is explained that the satisfied customer would most likely to repurchase the same product from the same company. This argument is further strengthened as according to Wisanawa et al. (2023), satisfied customers are likely to become loyal that underlines the importance of experience quality within the tourist destination.

3. Research Method
Research Design

This research aims to identify the effect of sustainable tourism practices destination brand loyalty with tourist satisfaction and brand equity acting as a mediating variable. To achieve this, a causal-explanatory study will be undertaken. As stated by Cooper and Schindler (2014), a causal-explanatory study is designed to describe the relationship between the independent variable and the dependent variable.

This research will be based on quantitative research, which according to Sekaran and Bougie (2016), is one of the approaches of a research that involves data in the form of number, which generally gathered through a structured form of questionnaire. Furthermore, questionnaire is explained as pre-formulated set of research instrument that the research subjects will answer and record their answer as a data for this research

Data Source and Collection Technique

In this particular research, the author decided to take primary data as the main source of data. According to Copper and Schindler (2014), a primary data is the data that the researcher collects by themselves in order to address specific research objectives and hypothesis. In another words, the primary data is the data that is not readily available yet and needs to be collected first.

In terms of collection technique, the primary data will be collected from questionnaire, which according to Malhotra et. al (2017) is a structured list of question that is given to sample in order to gain insight and information about the research. In regards of the time-horizon of the data, this research will collect a cross-sectional study, which the data are collected in a one period of time in order to answer the research question (Sekaran & Bougie, 2016).

Research Sampling Method and Sample Size

This quantitative research subject are the tourists who have visited Bali at least once in period 2023 and above. By pre-selecting the criteria for this research, this would ensure the purposed research sample will be aware regarding the current ongoing overtourism phenomena and will be able to represent and illustrate the current recent situation that is happening in Bali. According to Wörfel et al. (2022), a recent experience that engages consumers emotionally has a profound impact on their cognition behavior that would determine satisfaction. Additionally, the threshold in 2023 is chosen as according to World Travel and Tourism Council and as cited by Tempo.com (2024), Bali has been listed as overtourism destination since 2023. Selecting only recent tourists would strengthen the result's accuracy as recent customers provide the most up-to-date feedback on the current market condition and customer expectation that will lead into capturing the most relevant and actionable insight (Haumann et al., 2014).

Another criterion for this research is that respondents must be at least 18 years old. This age screening ensures that all participants possess the cognitive ability to critically evaluate their recent experiences in Bali, making their responses more reliable (Polyanskaya, 2023). Similarly, Schneider et al. (2023) highlight that minors under 18 are still undergoing significant cognitive development, which may hinder their ability to fully comprehend and accurately respond to complex survey questions. By limiting participation to adults aged 18 and above, this study enhances the reliability and validity of the collected data. Since not all of Bali's visitor will be qualified as the research subject, a purposive sampling technique will be applied. According to Sekaran and Bougie (2016), purposive sampling technique is when the researcher is seeking to acquire the information from specific target of subject. Judgement sampling technique will also be employed when only a limited people have the sought information as according to Copper and Schindler (2014), judgement sampling technique occurs when the sample members are selected to comply with some criteria, which has been explained on the first paragraph on this sub-chapter.

Furthermore, in terms of sample size, according to Hair et al. (2019) the minimum sample size of a research would be five times of the numbers of the questions in the questionnaire that are going to be analyzed. Sekaran and Bougie (2016) also added that sample size between 30 to 500 are suitable for most research. Based on these justifications, the author decided to take 200 as the sample size for this particular research.

4. Result and Discussion
Outer SEM Model Analysis Result
Convergent Validity Test Result

According to Abma et al. (2016), convergent validity ensures that different indicators measure the same construct and yield similar results, confirming that each construct is being accurately measured. Convergent validity is assessed by evaluating the Average Variance Extracted (AVE) value and factor loading value. As stated by Song et al. (2017), the AVE value must exceed 0.50, and the factor loading value should be greater than 0.7. Table 2 below presents the results of the convergent validity test from the main test.

Table 2. Convergent Validity Test Result

Dimension/Variable	Indicators	Factor Loading	AVE
Sustainable tourism practices-Economic dimension	EN1	0.871	0.688
	EN2	0.824	
	EN3	0.789	
	EN4	0.831	
Sustainable tourism practices-Socio-cultural dimension	SC1	0.853	0.724
	SC2	0.847	
	SC3	0.842	
	SC4	0.862	
Sustainable tourism practices-Economic dimension	EC1	0.818	0.714
	EC2	0.857	
	EC3	0.832	
	EC4	0.841	
	EC5	0.860	
	EC6	0.860	
Sustainable tourism practices-Institutional dimension	IN1	0.784	0.697
	IN2	0.841	
	IN3	0.876	

Brand Equity-Perceived quality	PQ1	0.882	0.741
	PQ2	0.888	
	PQ3	0.844	
	PQ4	0.828	
Brand Equity-Brand image	BI1	0.802	0.612
	BI2	0.768	
	BI3	0.773	
	BI4	0.785	
Brand Equity-Brand awareness	BA1	0.806	0.733
	BA2	0.932	
	BA3	0.824	
Tourist satisfaction	TS1	0.847	0.732
	TS2	0.849	
	TS3	0.870	
Destination brand loyalty	BL1	0.823	0.666
	BL2	0.804	
	BL3	0.822	

Source: Author's questionnaire, processed by SmartPLS (2025)

Following the criteria established by Song et al. (2017), the results presented in Table 2 show that all factor loading values for each indicator exceed 0.7, and all AVE values for each dimension and variable surpass 0.50. Therefore, it can be concluded that all indicators successfully demonstrate convergent validity, accurately measuring their respective dimensions and variables.

Discriminant Validity Test Result

Discriminant validity, according to Afthanorhan et al. (2021), refers to the extent which a construct is truly distinct from other constructs. It is crucial aspect in SEM analysis in order to confirm that each indicator measures only the construct they are supposed to measure and not others. Henseler et al. (2015), argue that cross-loading test is a method used to assess discriminant validity that involves examining the loading of items on their respective construct and ensure that each item loads higher on its intended construct than any other constructs. Meanwhile, the Fornell-Larcker criterion test compares the square root of the AVE of each construct with its correlation with other construct. Discriminant validity is established if the result fulfills both cross loading test and Fornell-Larcker criterion test. Table 3 and Table 4 below present the result of cross-loading and Fornell-Larcker criterion test respectively.

Table 3. Cross-loading Discriminant Validity Test Result

	BA	BI	BL	EC	EN	I	PQ	SC	TS
BA1	**0.806**	0.011	0.238	-0.038	-0.065	0.019	-0.048	-0.007	0.16
BA2	**0.932**	-0.029	0.218	0.025	-0.118	-0.142	-0.005	0.084	0.303
BA3	**0.824**	-0.055	0.191	-0.038	-0.135	-0.077	-0.126	0.084	0.165
BI1	**-0.079**	0.802	0.533	0.377	0.332	0.217	0.066	0.301	0.421
BI2	**-0.071**	0.768	0.481	0.249	0.382	0.196	-0.065	0.317	0.359
BI3	**-0.015**	0.773	0.43	0.348	0.261	0.119	-0.064	0.319	0.387
BI4	**0.081**	0.785	0.557	0.411	0.329	0.114	-0.034	0.242	0.35
BL1	**0.196**	0.542	0.823	0.337	0.202	0.241	0.213	0.245	0.559
BL2	**0.288**	0.502	0.804	0.359	0.241	0.131	0.264	0.148	0.518
BL3	**0.128**	0.524	0.822	0.297	0.239	0.215	0.295	0.235	0.552
EC1	**0.004**	0.392	0.394	0.818	0.038	-0.06	0.036	-0.123	0.376
EC2	**0.051**	0.344	0.384	0.857	0.004	-0.06	0.058	-0.158	0.375

EC3	**-0.046**	0.343	0.291	**0.832**	0.023	-0.065	-0.036	-0.132	0.265
EC4	**-0.041**	0.31	0.255	**0.841**	-0.003	-0.121	-0.013	-0.113	0.285
EC5	**-0.042**	0.406	0.324	**0.860**	0.162	-0.148	-0.019	-0.113	0.29
EC6	**0.023**	0.425	0.38	**0.860**	0.062	-0.044	0.039	-0.137	0.309
EN1	**-0.11**	0.416	0.256	0.063	**0.871**	-0.073	-0.044	-0.054	0.218
EN2	**-0.14**	0.307	0.193	0	**0.824**	-0.09	-0.086	-0.05	0.125
EN3	**-0.085**	0.339	0.228	0.073	**0.789**	-0.169	-0.066	-0.08	0.162
EN4	**-0.08**	0.301	0.239	0.061	**0.831**	-0.13	-0.054	-0.097	0.137
IN1	**-0.058**	0.111	0.133	-0.074	-0.141	**0.784**	0.034	-0.161	0.016
IN2	**-0.045**	0.184	0.219	-0.069	-0.131	**0.841**	-0.01	-0.068	0.174
IN3	**-0.126**	0.204	0.228	-0.098	-0.086	**0.876**	0.012	-0.043	0.048
PQ1	**-0.053**	-0.021	0.289	0.024	-0.089	0.01	**0.882**	-0.062	0.229
PQ2	**-0.036**	-0.016	0.307	0.064	-0.053	0.005	**0.888**	-0.08	0.235
PQ3	**-0.057**	-0.02	0.258	-0.033	-0.004	0	**0.844**	-0.026	0.185
PQ4	**-0.045**	-0.043	0.212	-0.031	-0.112	0.023	**0.828**	-0.046	0.157
SC1	**0.064**	0.343	0.265	-0.122	-0.035	-0.083	-0.032	**0.853**	0.213
SC2	**-0.024**	0.35	0.19	-0.082	-0.035	-0.082	-0.119	**0.847**	0.19
SC3	**0.1**	0.264	0.207	-0.163	-0.13	-0.087	-0.014	**0.842**	0.189
SC4	**0.113**	0.313	0.215	-0.165	-0.1	-0.064	-0.044	**0.862**	0.166
TS1	**0.223**	0.436	0.6	0.393	0.111	0.121	0.203	0.175	**0.847**
TS2	**0.212**	0.362	0.539	0.265	0.209	0.014	0.21	0.256	**0.849**
TS3	**0.242**	0.444	0.566	0.299	0.194	0.124	0.201	0.148	**0.87**

Source: Author's questionnaire, processed by SmartPLS (2025)

Table Error! No text of specified style in document.**. Fornell-Larcker Criterion Test Result**

	BA	BI	BL	EC	EN	I	PQ	SC	TS
BA	**0.856**								
BI	-0.029	**0.782**							
BL	0.248	0.641	**0.816**						
EC	-0.009	0.443	0.404	**0.845**					
EN	-0.125	0.417	0.278	0.062	**0.829**				
IN	-0.096	0.209	0.241	-0.098	-0.136	**0.835**			
PQ	-0.055	-0.028	0.315	0.014	-0.073	0.01	**0.861**		
SC	0.069	0.377	0.258	-0.153	-0.083	-0.093	-0.065	**0.851**	
TS	0.264	0.486	0.666	0.376	0.199	0.104	0.239	0.223	**0.855**

Source: Author's questionnaire, processed by SmartPLS (2025)

Based on the criteria established by Henseler et al. (2015), to pass the cross-loading test, the loading value of each indicator within its intended construct must be higher than its loadings on other constructs, confirming that each indicator measures only its designated construct. As shown in Table 4, all indicators exhibit higher loading values within their respective constructs compared to others, indicating that the data successfully pass the cross-loading test.

To further strengthen the cross-loading results, the Fornell-Larcker criterion test results are presented in Table 4 It can be observed that the square root of the AVE value for each construct is greater than its correlation with any other construct, indicating good discriminant validity. In summary, the results of both tests confirm that all indicators successfully demonstrate discriminant validity, as they accurately measure their respective intended constructs rather than others.

Reliability Test Result in Main Test

Reliability refers to the extent of the ability of the indicators to produce a consistent, precise, and accurate response from the sample (Cooper & Schindler, 2014). Reliability test in main test is conducted by calculating the Cronbach's alpha and composite reliability value of each construct. According to Li and Lay (2025), in order for the indicators to be valid, both Cronbach's alpha and composite reliability value must exceed 0.7. Table 5 below presents the result of reliability tests for both parameters as follow:

Table 5. Reliability Tests Result in Main Test

No	Variable/Dimension	Cronbach's Alpha	Composite Reliability
1	Environment dimension of sustainable tourism practice	0.849	0.898
2	Socio-cultural dimension of sustainable tourism practice	0.874	0.913
3	Economic dimension of sustainable tourism practice	0.920	0.937
4	Institutional dimension of sustainable tourism practice	0.789	0.873
5	Perceived quality dimension of brand equity	0.885	0.920
6	Brand Image dimension of brand equity	0.788	0.863
7	Brand awareness dimension of brand equity	0.825	0.891
8	Tourist satisfaction	0.817	0.891
9	Destination brand loyalty	0.750	0.857

Source: Author's questionnaire, processed by SmartPLS (2025)

Based on the results on table 5, all indicators' value of Cronbach's alpha and composite reliability surpass the threshold of 0.7. Hence, it can be concluded that all indicators are deemed reliable.

To conclude the SEM outer model analyses, the indicators pass all tests of factor loading analysis, AVE value, cross-loading analysis, Fornell-Larcker criterion test, as well as reliability tests. As a summary, all indicators are considered as valid and reliable to measure its designated intended construct. The output from SmartPLS for outer model analyses is available in Appendix 5.

Inner SEM Model Analysis Result
Calculation of R^2 Value

R-squared (R^2) value, as explained by Byon and Jang (2024), indicates the explanatory power of exogenous variables to the endogenous variables. A higher R^2 model suggest a better explanatory power from the exogenous variables. In this research, the endogenous variables (variables that are influenced by others in the model) are: brand image, tourist satisfaction and brand loyalty. The results of the R^2 value calculation are presented in Table 6 below.

Table 6. R^2 Value Calculation Result

Variable/Dimensions	R-squared Value	Adjusted R-squared Value
Brand Image dimension of Brand Equity	0.715	0.710
Tourists Satisfaction	0.386	0.376
Destination Brand Loyalty	0.443	0.440

Source: Author's questionnaire, processed by SmartPLS (2025)

Based on above table, brand image dimension of brand equity has an adjusted R^2 value of 0.710. From this result, we can infer that the four dimensions of sustainable tourism practice explains 71% of brand image, while 29% of brand image is explained by other variables. Other variables that might be able to explain the 29% would be marketing communication initiatives or other strategies by Bali Tourism Board, brand trust, or word of mouth from other tourists that would also create a positive brand image.

Meanwhile, tourist satisfaction has an adjusted R^2 value of 0.376. This result informs that perceived quality, brand image, and brand awareness explains 37.6% of tourist satisfaction while other 62.4% is explained by other variables. Other variables that might explain tourist satisfaction might be price sensitivity or service quality.

Lastly, the R^2 value for destination brand loyalty is 0.440, indicating that 44% of the variance in brand loyalty can be explained by tourist satisfaction, while the remaining 56% is influenced by other factors not captured in the model. Additionally, the R^2 value for tourist satisfaction (explained by brand equity) is lower than that of brand loyalty explained by tourist satisfaction. This suggests that tourist satisfaction plays a more significant role in driving brand loyalty than brand equity does in shaping tourist satisfaction. In other words, satisfaction appears to be a stronger predictor of loyalty than brand equity is of satisfaction.

Calculation of Q^2 Value

Q-squared value, also known as cross-validated redundancy measure as explained by Byon and Jang (2024), refers to the ability of the model to generalize beyond the current sample, suggesting that the structural relationships are not specific to the current data but hold predictive validity for new data. In order to achieve this, Q^2 value of the endogenous variable has to surpass 0. The results of Q^2 value calculations are presented in Table 7 below.

Table 7. Q^2 Value Calculation Results

Variable/Dimension	Q^2 Value
Brand image dimension of Brand equity	0.425
Tourist satisfaction	0.266
Destination brand loyalty	0.292

Source: Author's questionnaire, processed by SmartPLS (2025)

As we can see from the above table, all endogenous variables' Q^2 values are higher than 0. We can infer that the model is fit to predict the relationship between its constructs.

Model Fit Analysis

Model fit analysis is conducted by assessing two parameters which are Standardized Root Mean Square (SRMR) and Normed Fit Index (NFI) Value of this structural equation model. Standardized Root Mean Square Residual (SRMR) represents the standardized difference between the observed correlations and the model-implied (predicted) correlations. According to Beribisky and Cribbie (2025), a lower SRMR value indicates a better fit, as it reflects smaller discrepancies between what the model predicts and the actual data. Additionally, Shi et al. (2022) argue that the acceptable value of SRMR must not exceed 0.08.

On the other hand, NFI value assesses fit of a model by comparing the chi-square value of the model to the chi-square value of a null model that assumes no relationships among the variables (Johnson & Ditchman, 2020). Meanwhile, as stated by Aghimien et al. (2024) the value of acceptable NFI ranging between 0.6 to 0.9. Both SRMR and NFI value calculation results are presented in table 8 below

Table 8. SRMR and NFI Value Calculation Results

Index	Saturated Model	Estimated Model

| SRMR | 0.055 | 0.079 |
| NFI | 0.779 | 0.748 |

Source: Author's questionnaire, processed by SmartPLS (2025)

Based on the above table, both SRMR and NFI values estimated model value conform with the criteria by Shi et al. (2022) and Aghimien et al. (2024). SRMR estimated model of 0.079 is below 0.080 and NFI value at 0.748 falls between 0.6 and 0.90.

To summarize the inner model analysis, the structural equation model demonstrates sufficient predictive power, as reflected in the R^2 values, indicating that the exogenous constructs explain a substantial proportion of variance in the endogenous variables. Additionally, the Q^2 values confirm the model's predictive relevance beyond the sample data. Lastly, the model achieves an acceptable overall model fit, as demonstrated by the SRMR and NFI indices. The output from SmartPLS for, inner model analyses is available in Appendix 5.

Hypotheses Testing
Hypotheses Test Results on Direct Effect

On this subsection, hypotheses testing will focus on the direct impact between the exogenous and endogenous variables using the bootstrapping analysis in PLS-SEM. The significance of each hypothesis is evaluated based on the *p*-values and t-statistics derived through the bootstrapping procedure. A *p*-value below 0.05 indicates statistical significance. Additionally, the sign and magnitude of the path coefficient indicate the strength and direction of the relationship.

The first hypothesis focuses on the brand image dimension of brand equity as an endogenous variable influenced by the four dimensions of sustainable tourism practices. To obtain deeper insights into the relative impact of each dimension, this hypothesis is further divided into four sub-hypotheses. This approach enables, not only a further examination of which practice contributes most significantly to shaping brand image, but also would be able to offer actionable suggestions for destination managers and tourism stakeholders to prioritize the most influential areas in strengthening brand equity.

Meanwhile, the second, third, and fourth hypotheses examine tourist satisfaction as an endogenous variable influenced respectively by perceived quality, brand image, and brand awareness. Finally, the fifth hypothesis explores the effect of tourist satisfaction on destination brand loyalty, which serves as the main dependent variable in this research model.

These are the hypotheses that are going to be tested on this sub-section:
1. H1a: The environmental dimension of sustainable tourism practices has a positive impact on brand image
2. H1b: The socio-cultural dimension of sustainable tourism practices has a positive impact on brand image
3. H1c: The economic dimension of sustainable tourism practices has a positive impact on brand image
4. H1d: The institutional dimension of sustainable tourism practices has a positive impact on brand image
5. H2: The perceived quality dimension of brand equity has a positive impact on tourist satisfaction.
6. H3: The brand image dimension of brand equity has a positive impact on tourist satisfaction.
7. H4: The brand awareness dimension of brand equity has a positive impact on tourist satisfaction.
8. H5: Tourist satisfaction has a positive impact on destination brand loyalty.
     Table 9 below shows the result of bootstrapping analysis for the above hypotheses.

Table 9. Bootstrapping Analysis Results for Direct Impact Hypotheses

Hypothesis	Construct	Coefficient	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics	P Values
H1a	EN -> BI	0.480	0.475	0.041	11.659	0.00
H1b	SC -> BI	0.533	0.529	0.047	11.445	0.00
H1c	EC -> BI	0.532	0.527	0.044	12.16	0.00
H1d	IN -> BI	0.376	0.372	0.046	8.117	0.00
H2	PQ->TS	0.269	0.276	0.054	4.958	0.00
H3	BI -> TS	0.502	0.502	0.052	9.673	0.00
H4	BA -> TS	0.294	0.299	0.051	5.753	0.00
H5	TS -> BL	0.666	0.667	0.038	17.308	0.00

Source: Author's questionnaire, processed by SmartPLS (2025)

As shown in Table 9, the *p*-values for all hypotheses are below the threshold of 0.05, and all t-statistic values exceed 1.96, indicating that each relationship is statistically significant. Furthermore, all path coefficient values are positive, suggesting a positive effect between the constructs. Specifically, the four dimensions of sustainable tourism practices significantly and positively influence brand image. In addition, perceived quality, brand image, and brand awareness have significant positive effects on tourist satisfaction. Finally, tourist satisfaction positively impacts destination brand loyalty in Bali. Therefore, it can be concluded that all hypotheses (H1 to H5) are supported. The SmartPLS output for direct hypotheses testing is available in Appendix 6.

Hypotheses Test Results on Mediating Effect

Continuing on the hypotheses testing, this sub-section focuses on multiple variables with brand equity dimensions and/or tourist satisfaction as the mediating variable within the models on destination brand loyalty as the dependent variable. Similarly with the previous subsection, bootstrapping analysis on PLS-SEM is implemented to test the hypotheses. A *p*-value below 0.05 indicates a statistical significance and the coefficient value will determine the strength and direction of the relationship.

The sixth hypothesis examines the effect between perceived quality as a dimension of brand equity on destination brand loyalty with tourist satisfaction as the mediating variable. The seventh hypothesis, is further divided into four sub-hypotheses examine the impact of four dimensions of sustainable tourism practices on destination brand loyalty with brand image and tourist satisfaction as the mediating variables. Finally, the eight hypothesis investigates the impact of brand awareness dimension of brand equity on destination brand loyalty with tourist satisfaction as the mediating variable.

These are the hypotheses that are going to be tested on this sub-section:

1. H6: Tourist satisfaction positively mediates the effect of the perceived quality dimension of brand equity on destination brand loyalty.
2. H7a: Brand image and tourist satisfaction positively mediate the effect of the environmental dimension of sustainable tourism practices on destination brand loyalty
3. H7b: Brand image and tourist satisfaction positively mediate the effect of the socio-cultural dimension of sustainable tourism practices on destination brand loyalty
4. H7c: Brand image and tourist satisfaction mediate the effect of the economic dimension of sustainable tourism practices on destination brand loyalty
5. H7d: Brand image and tourist satisfaction positively mediate the effect of the institutional dimension of sustainable tourism practices on destination brand loyalty

6. H8: Tourist satisfaction positively mediates the effect of the brand awareness dimension of brand equity on destination brand loyalty.

Table 10 below shows the result of bootstrapping analysis for the above hypotheses.

Table 10. Bootstrapping Analysis Results for Direct Impact Hypotheses

Hypothesis	Construct	Coefficient	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics	P Values
H6	PQ -> TS -> BL	0.179	0.184	0.038	4.742	0.00
H7a	EN -> BI -> TS -> BL	0.16	0.159	0.022	7.17	0.00
H7b	SC -> BI -> TS -> BL	0.178	0.177	0.026	6.798	0.00
H7c	EC -> BI -> TS -> BL	0.178	0.177	0.028	6.262	0.00
H7d	IN -> BI -> TS -> BL	0.126	0.125	0.021	6.017	0.00
H8	BA -> TS -> BL	0.195	0.2	0.036	5.502	0.00

Source: Author's questionnaire, processed by SmartPLS (2025)

As presented in Table 10 above, all *p*-values are below the 0.05 threshold and t-statistics surpass the value of 1.96, confirming the robustness of the indirect effects between the constructs. Moreover, all of the coefficient values are positive, indicating a positive relationship between the variables and destination brand loyalty as the dependent variable on this research. The SmartPLS output for mediating hypotheses testing is available in Appendix 7.

Specifically, tourist satisfaction is discovered to positively mediate the relationship between all dimensions of brand equity which are perceived quality, brand image, and brand awareness and destination brand loyalty. Specifically, on hypotheses 7a to 7d, both brand image and tourist satisfaction also positively mediate the effect on each dimension of sustainable tourism practices on destination brand loyalty. These results underline the critical role of the meditating variables, particularly tourist satisfaction and brand image in linking sustainable tourism practices and brand equity dimension to create long-term visitor loyalty in Bali.

Discussion of Hypotheses Testing
**Summary of Hypotheses Testing Results**

The summary of hypotheses testing results will be presented in a table format that compares the result of this study with the result of previous empirical researches as well as the summary of SEM Model. Table 11 below shows the summary of the hypotheses testing results as follow.

Table 11. Summary of Hypotheses Testing Result

Hypothesis	Constructs	Result on this Research	Result from Previous Studies			
			Jung et al. (2020)	Rastogi et al. (2024)	Gomézet al. (2024)	Tran et al. (2020)
H1a	EN -> BI	Supported	Supported	Supported	-	-
H1b	SC -> BI	Supported	Supported	Supported	-	-
H1c	EC -> BI	Supported	Supported	Supported	-	-
H1d	IN -> BI	Supported	-	-	Supported	-
H2	PQ -> TS	Supported	-	-	-	Supported
H3	BI -> TS	Supported	-	-	-	Supported
H4	BA -> TS	Supported	-	-	-	Supported
H5	TS -> BL	Supported	-	-	-	Supported
H6	PQ -> TS -> BL	Supported	-	-	-	Supported
H7a	EN -> BI -> TS -> BL	Supported	Supported	Supported	-	Supported
H7b	SC -> BI -> TS -> BL	Supported	Supported	Supported	-	Supported
H7c	EC -> BI -> TS -> BL	Supported	Supported	Supported	-	Supported
H7d	IN -> BI -> TS -> BL	Supported	-	-	Supported	Supported
H8	BA -> TS -> BL	Supported	-	-	-	Supported

Source: Processed by author (2025)

Based on above the above table, all H1 to H8 are supported on this study, indicating that the results of this study correspondent well with the theoretical background as well as the results from previous studies. In order to further illustrate the relationship between variables in this study, following path coefficient diagram presents the result of hypotheses testing by PLS-SEM. Each path is annotated with the coefficient value and its corresponding significance level. This model provides an overview regarding the direct and indirect effects among variables as the basis for the subsequent discussion. Figure 1 below presents the SEM Coefficient diagram as follow.
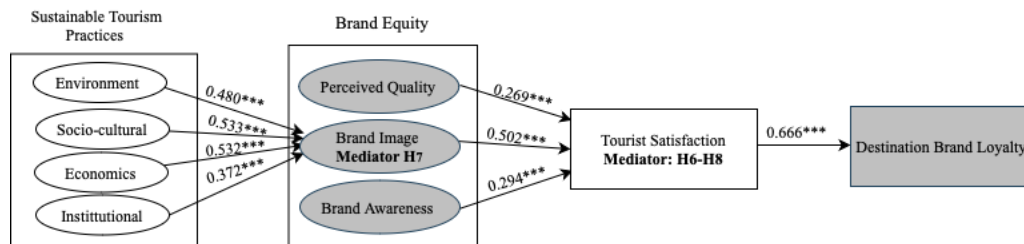
Mediating Hypotheses path coefficient:

H6: PQ →TS→BL: 0.179***

H7a: EN→BI→TS→BL: 0.160***

H7b: SC→BI→TS→BL: 0.178***

H7c: EC→BI→TS→BL: 0.178***

H7d: I→BI→TS→BL: 0.126***

H8: BA→TS→BL: 0.195***

Significance Level:

***: Significant at <0.001

Figure 1. SEM Path Coefficient Diagram
Source: Author's questionnaire, processed using SmartPLS (2025).

As seen in the path coefficient diagram above, among the sustainable tourism practices dimensions, socio-cultural dimension exhibits the strongest influence on Brand Image dimension of brand equity. Moreover, brand image also exerts the highest direct impact on Tourist Satisfaction. The output from smart PLS for the path coefficient test is available in appendix 8. These patterns suggest about the importance of sustainable tourism practices in Bali.

Direct Hypotheses Discussion (H1-H5)

The four dimensions of sustainable tourism practices comprising environmental, sociocultural, economic and institutional serve as the main independent variable of this research. Therefore, the discussion of its direct effect on brand image would serve as a critical component on this section. First hypothesis, is further divided into four sub-hypotheses, examine the direct effect on brand image in Bali. These are the hypotheses in the first hypothesis:

H1a: The environmental dimension of sustainable tourism practices has a positive impact on brand image.

H1b: The socio-cultural dimension of sustainable tourism practices has a positive impact on brand image.

H1c: The economic dimension of sustainable tourism practices has a positive Impact on brand image.

H1d: The institutional dimension of sustainable tourism practices has a positive impact on brand image.

As depicted in figure 1, H1a is supported as the *p*-value is 0.000 with coefficient value of 0.480. Among other dimensions of sustainable tourism practices, economic dimension does not exert the strongest impact on brand image. H1b is supported as well as the *p*-value is 0.000 with coefficient value at 0.533, which has the biggest impact on brand image among the other dimensions. Meanwhile, H1is also supported as the *p*-value is 0.000 with coefficient value of 0.532 making it the second dimension which has the biggest impact on brand image. Lastly, H1d is supported as well with *p*-value of 0.000 and coefficient value of 0.372, making it the dimension with the least effect compared to other dimensions.

The finding of this hypotheses is also supported by the results of previous researches. According to Rastogi et al. (2024) and Jung et al. (2020), three dimensions of sustainability marketing activities: economic, socio-cultural and environmental has a positive effect on brand image. On the other hand, according to Goméz et al. (2024), institutional quality of a firm exerts a positive impact on brand image.

Among the four dimensions of sustainable tourism activities, socio-cultural dimension shows the strongest influence on brand image dimension of brand equity with coefficient value of 0.533. This result aligns with the phenomenon that Bali has always been renowned for its sociocultural aspect in its tourism. According to Darma Putra et al. (2021), Bali is famous for rich cultural heritages that are practiced daily throughout the Island that includes traditional culture practices, daily offerings, and unique sociocultural aspects. These characteristics are distinctive to Bali and are major attractions for tourists. Additionally, a question in the questionnaire where the respondents were asked whether they have participated in sustainable tourism in Bali also exhibit another finding that could reinforce this result. Some of the respondents have informed that they have visited Desa Adat Tenganan as well as Desa Adat Penglipuran during their visit to Bali. Additionally, Desa Adat Penglipuran is well known for its strong adherence to traditional Balinese culture and norm as this village maintains strongly its cultural heritage and included in the top 100 World Sustainable Destinations (Pickel-Chevalier et al., 2021). These arguments strengthen the result that socio-cultural dimension of sustainable tourism practices has the biggest effect on brand image.

Moving on to economic dimension that has the second biggest impact on brand image in Bali, this result is also strengthen by these several arguments. According to Kencana et al. (2019), tourism development in Bali absorbs over 41% of the labor force in Bali, indicating a strong economic contribution. Furthermore, Namirah et al. (2023) argue that Tourism development has positively impacted the local economy in Bali, although it has brought challenges, indicating an urgency to sustainable tourism practices. Moreover, as stated by Jasrotia et al. (2023), economic benefit of tourism is the first entry point for broader tourism development in environment and socio-cultural dimensions.

The overall result of H1 could also related to the demographic background of the respondents. Since the majority of the respondents hold Bachelor's degree as their highest level of education, they would be able to perceive and determine what tourism activities would be sustainable. Moreover, majority of respondents of 53% also inform that they highly consider sustainability aspects during their visit in Bali.

The relatively lower yet significant influence of environmental and institutional dimension indicates that while these dimensions remain important, they might be perceived as secondary compared to economic and sociocultural concerns in Bali. Nevertheless, the significance effect on this hypothesis confirms the strategic role of each sustainability dimension in shaping Bali's destination brand image, which in turn influences further behavioral outcomes such as satisfaction and loyalty that will be discussed in the mediating hypotheses discussion.

H2: The perceived quality dimension of brand equity has a positive impact on tourist satisfaction.

Hypothesis 2 (H2), which examines the effect from perceived value dimension of brand equity on tourist satisfaction is supported in this study. Following the figure 4.2, the SEM result shows a coefficient value of 0.294 with *p*-value of 0.000, indicating a significant impact. This finding suggests that tourists who perceive high quality of experience or service during their stay in Bali, whether through accommodation, cleanliness, safety, or destination's offering, are more likely to feel satisfied with the overall experience. The result is also supported by the finding of Tran et al. (2021) that highlighted perceived quality significantly predicts satisfaction within tourism industry. Furthermore, reflecting back on the Expectancy-Disconfirmation Model Theory, perceived quality serves to create the expectation that is used to compare with the actual experience.

Moreover, in the questionnaire, a large portion of respondents informed that they stayed at a midscale hotel in Bali during their visit, indicating that they would already have certain perceived quality of their overall visit in Bali, affected by their choice of accommodation. Overall, this finding reinforces perceived quality as a fundamental driver in shaping tourist satisfaction in Bali.

H3: The brand image dimension of brand equity has a positive impact on tourist satisfaction.

Hypothesis 3 (H3) that investigates the direct effect between brand image dimension of brand equity on tourist satisfaction is supported in this study. Figure 4.2 exhibits a coefficient value of 0.502 and *p*-value of 0.000, indicating a strong significance level. This finding indicates that respondent would already have a certain brand image about Bali that is significant to their level of satisfaction. In other word, Bali as a tourist destination has quite successful to realize the expectation from the tourists into an actual satisfying experience. This finding is supported by previous result as Tran et al. (2021) reported that brand image does significantly impact tourist satisfaction.

Additionally, another finding from the questionnaire also support this finding as most of the respondents travelled to Bali with leisure travel as the primary purpose of their visit. It is widely accepted that leisure traveler would be more emotionally responsive to satisfaction as they travelled in order to pursue pleasure and enjoyment rather than business traveler. In general, this result strengthens brand image as the predictor in determining the tourist satisfaction in Bali.

H4: The brand awareness dimension of brand equity has a positive impact on tourist satisfaction.

The fourth hypothesis on this study (H4) examines the impact of brand awareness on tourist satisfaction, is supported as well in this research. It is statistically significant with *p*-value of 0.000 and coefficient value at 0.269. This result strengthens the reality that Bali is indeed a well-known global tourist destination. While brand awareness may not directly reflect service experience or emotional connection, it plays a crucial fundamental role. A destination like Bali could exhibit strong perceived quality and brand image, yet without a strong brand awareness, potential tourists would not be exposed to those strength in the first place. This idea also aligns with Aaker (2009), who emphasized that brand awareness is the first step in building brand equity, enabling deeper association such as brand image or even loyalty to form. Moreover, this finding also aligns with previous study as shown by Tran et al. (2020) who found that brand awareness does impact positively on tourist satisfaction.

Additionally, the majority respondents informed that they have visited Bali twice from 2023. This finding signals a familiarity and awareness of Bali as a brand. Moreover, since the majority of the respondents have visited Bali as leisure travelers, they are actively searching

for experiences and more easily satisfied when their expectations (formed by brand awareness) are met rather than business traveler.

H5: Tourist satisfaction has a positive impact on destination brand loyalty.

The last direct hypothesis is H5 that examines the relation of tourist satisfaction on destination brand loyalty. H5 is supported with a path coefficient of 0.666 and *p*-value of 0.000, indicating a a strong positive relationship between these two variables. Moreover, the adjusted R^2 value of 0.440 suggests that 44% of the variance in brand loyalty is explained by satisfaction alone. These results both underline the importance and pivotal role of satisfaction in creating as well as fostering loyalty in Bali.

This finding aligns with Jung et al. (2020) who argued that tourist satisfaction acts as the main and critical factor in determining destination brand loyalty. Bali's unique combination of natural landscape beauty, cultural and environmental contribute to an emotionally rich experience, which could explain the strong path coefficient.

This finding is also supported by several demographic indicators. Most respondents had visited Bali more than once in recent years, suggesting that their repeat visits were likely driven by positive past experiences. Moreover, the relatively high expenditure range and the tendency to travel in small groups further indicate a level of trust and emotional connection with the destination. These behaviors reflect behavioral loyalty, aligning with the hypothesis that higher satisfaction leads to greater loyalty.

Mediating Hypotheses Discussion (H5-H8)
H6: Tourist satisfaction positively mediates the effect of the perceived quality dimension of brand equity on destination brand loyalty.

Hypothesis 6 examines the mediating role of tourist satisfaction in the relationship between perceived quality and brand loyalty. Based on table 10, H6 is supported with coefficient level of 0.179 and *p*-value of 0.000, indicating a significant indirect effect from perceived quality on destination brand loyalty. This result is supported by the finding from H2 and H4 where perceived quality significantly affected tourist satisfaction (H2: 0.294***) and satisfaction also impact destination brand loyalty (H5: 0.666***). These combined paths confirms that tourists who perceived a high-quality tourism experience in Bali tend to be more satisfied that leads to stronger loyalty to Bali.

This result aligns with the previous research as according to Tran et al. (2020), satisfaction acts as the partial mediator between perceived quality and destination brand loyalty. Within Bali's context, tourists who perceive the destination that offers a high-quality tourism experience are more likely to feel fulfilled, leading to their willingness to revisit to Bali or even recommend the destination.

This result is supported as well by several respondent characteristics. The dominance of midscale stays indicates that tourists experienced a consistent level of service, contributing their perception of quality. Additionally, as the majority of the respondent stayed for 3-6 days and spent 5-15 million IDR suggest a substantial interaction within the tourism system that could enhance their satisfaction as well. The satisfaction, ultimately, lead to the loyalty as evidenced by the high number of repeat visits among the respondents.

Overall, the mediating effect underscores the importance of perceived quality as a strategic driver in order to create loyalty within the tourists in Bali. In practical terms, it suggests that improving quality dimensions (e.g., hospitality, services, cleanliness, hygiene) is a foundational effort that would translate to satisfying experience that ultimately secures long-term brand loyalty.

H7a: Brand image and tourist satisfaction positively mediate the effect of the environmental dimension of sustainable tourism practices on destination brand loyalty
H7b: Brand image and tourist satisfaction positively mediate the effect of the socio-cultural dimension of sustainable tourism practices on destination brand loyalty
H7c: Brand image and tourist satisfaction mediate the effect of the economic dimension of sustainable tourism practices on destination brand loyalty
H7d: Brand image and tourist satisfaction positively mediate the effect of the institutional dimension of sustainable tourism practices on destination brand loyalty

The hypotheses H7a to H7d examine the chain mediation path from the four dimensions of sustainable tourism practices (environment, socio-cultural, economic, and institutional) through brand image and tourist satisfaction toward brand loyalty. All four hypotheses are statistically supported, indicating that the positive influence of sustainable tourism practices on brand loyalty is significantly mediated by brand image and tourist satisfaction.

The results shows the following standardized indirect effect coefficients: H7a: (EN→BI→TS→BL)= 0.160***, H7b: (EN→BI→TS→BL)= 0.178***, H7c: (EN→BI→TS→BL)= 0.178***, H7d (EN→BI→TS→BL)= 0.126***. These significant values confirm that the chain mediation paths for each sustainability dimension to brand loyalty via brand image and tourist satisfaction are meaningful.

These findings are coherent with the previous direct effect discussions. As established in H1, the socio-cultural and economic dimensions showed the strongest influence on brand image. In turn, H3 and H5 confirmed that brand image significantly affects tourist satisfaction, and that satisfaction, in turn, strongly influences brand loyalty. Therefore, the positive of sustainable tourism practices enhances the brand image of Bali, which contributes to greater satisfaction and eventually strengthens loyalty among tourists.

This result is aligned with previous studies suggesting that sustainable practices enhance destination brand equity (Rastogi et al., 2024; Jung et al., 2020; Goméz et al., 2024), while a strong brand image fosters satisfaction and long-term behavioral intentions (Tran et al. 2020). The chain effect reinforces the strategic importance of maintaining or even improving sustainable practices not merely for image building. Nevertheless, sustainable tourism practices could also act as a foundational element in fostering and nurturing brand loyalty loyalty through enriched tourist experience and emotional attachment.

Among the four dimensions, the socio-cultural dimension (H7b) showed the strongest mediating effect. This reflects Bali's unique cultural heritage as a critical pull factor that enhances tourists' brand images and satisfaction. This finding even further underlines that leveraging cultural identity through sustainable practices can effectively build destination loyalty.

Moreover, if we examine further into the outer loading values that reveals the strength of each indicator in measuring its respective construct within the four dimension of sustainable tourism practices, allows us to identify which indicator contributes most strongly to each dimension. Among all indicators measuring environmental dimension (EN), EN1 (Nature diversity in Bali is valued and protected) contributes the highest outer loading with 0.871. Meanwhile, in socio-cultural dimension, SC4 (Tourism helps in restoration of the culture in Bali) has the highest outer loading value of 0.862. In economic dimension, EC5 (Local products are available at affordable price) and EC6 (Tourism in Bali diversifies the local economy) contribute the most with 0.86 outer loading value. In institutional dimension, IN3 (Bali Tourism Board ensures that historical and cultural information disseminated across tourism platforms is accurate) contributes the most with outer loading value of 0.876.

Overall, these findings further suggest that policy makers and tourism managers as well as stakeholders should not treat sustainability merely as a compliance issue, but rather as

a branding and satisfaction strategy that fosters repeat visitation and long-term loyalty. This strategy could also lead into having a competitive advantage of Bali among any other global tourist destination.

H8: Tourist satisfaction positively mediates the effect of the brand awareness dimension of brand equity on destination brand loyalty.

Hypothesis 8 explores the mediating role of tourist satisfaction in the relationship between brand awareness and brand loyalty. The SEM statistical result reveals a significant indirect effect with *p*-value of 0.000 and coefficient value of 0.195, confirming that tourist satisfaction mediates the relationship between brand awareness and brand loyalty. While brand awareness by itself would not automatically guarantee any loyalty, this result suggests that when tourists are aware of Bali's branding (its unique attribute, reputations, or previous experience) it influences the satisfaction during their visit, which then enhances their loyalty. This is supported by H4 and H5: brand awareness affects satisfaction (H4: 0.269***), and satisfaction affects loyalty (0.666***).

This finding aligns well with Aaker (2009) brand equity theory where brand awareness facilitates customer response to the brand and contributes to satisfaction during consumption. This also aligns with Jung et al. (2020) who found that tourists with high awareness creates expectations and when those expectations are met or exceeded, satisfaction and loyalty are more likely to happen.

Several questions within the questionnaire also support this finding. Firstly, the respondents mainly visited Bali as leisure traveler, as leisure traveler would be more active to search for information prior arriving at the destination, indicating a high level of brand awareness as well as would be more emotionally attached toward the satisfaction of their visit. Moreover, the majority of respondents indicate that they have visited Bali twice recently, indicating a solid proof loyalty within the respondents. Overall, this finding suggests that brand awareness efforts (destination campaign, integrated marketing communications, recognizability of "Bali" as a brand) should be matched with consistent delivery of satisfying experiences to create a meaningful link between awareness and loyalty.

5. Conclusion

This research is aimed to investigate the role of sustainable tourism ptactices in shaping destination brand equity and influencing tourist satisfaction and loyalty in Bali. Using quantiative approach and Structural Equation Modeling (SEM), eight research objectives were adressed as follow:

1. The study confirms that four dimensions of sustainable tourism practices, consisting of: environmental, socio-cultural, economic, and institutional dimensions significantly influence the destination brand image with a quite high R^2 value of 0.71, indicating that these four dimensions explain 71% of brand image in Bali. Among these dimensions, the socio-cultural and economic dimensions exhibit the strongest impact, highlighting the importance of cultural preservation and local economic develoment in enhancing Bali's brand image.

2. Destination perceived quality was found to significantly affect tourist satisfaction, confirming that a positive pre-evaluation of the tourism experience enhances visitors' overall satisfaction.

3. Brand image was also found to have a significant positive effect on tourist satisfaction, underlining the role of positive destination perception in enhancing visitor's emotional experience.

4. Brand awareness positively influences tourist satisfaction. Even when perceived quality and image are strong, awareness serves as a necessary starting point in building tourist expectations and emotional response.

5. This study verifired that tourist satisfaction strongly drives destination brand loyalty with R^2 value of 0.440, showing that 44% of brand loyalty is being explained by satisfaction, implying that satisfied tourists are more likely to revisit and recommend Bali.

6. Tourist satisfaction mediates the relationship between perceived quality and brand loyalty, showing that brand loyalty is formed by satisfaction that is created by having a well-established perceived quality of the tourist experience in Bali.

7. Most importantly, a chain mediating effect was established: brand image and tourist satisfaction together mediate the inluences of four dimensions of sustainable tourism practice on destination brand loyalty in Bali, reinforcing the idea that sustainability enhances brand image, which then increases satisfaction and ultimately loyalty.

8. Lastly, tourist satisfaction also mediates the relationship between brand awareness and brand loyalty, emphasizing that recognition alone would not be enough. Tourist must have a satisfying experience in order to form long lasting destination brand loyalty.

Overall, all proposed hypotheses were supported. These findings emphasize that sustainable tourism practices alone are not sufficient to generate loyalty among the tourists. These practices and actions must be marketed well and translated into perceived quality, strong brand image, high brand awareness that would lead into satisfaction and lasting loyalty. This study contributes both practically and theoretically by providing a model that integrates both sustainability and destination branding as well as tourists' behavior in one of the most iconic destinations in the world, Bali.

References

Abma, I. L., Rovers, M., & van der Wees, P. J. (2016). Appraising convergent validity of patient-reported outcome measures in systematic reviews: constructing hypotheses and interpreting outcomes. *BMC Research Notes*, *9*(1), 226. https://doi.org/10.1186/s13104-016-2034-2

Afthanorhan, A., Ghazali, P. L., & Rashid, N. (2021). Discriminant Validity: A Comparison of CBSEM and Consistent PLS using Fornell & Larcker and HTMT Approaches. *Journal of Physics. Conference Series*, *1874*(1), 012085. https://doi.org/10.1088/1742-6596/1874/1/012085

Aghimien, D., Ikuabe, M., Aghimien, L. M., Aigbavboa, C., Ngcobo, N., & Yankah, J. (2024). PLS-SEM assessment of the impediments of robotics and automation deployment for effective construction health and safety. *Journal of Facilities Management*, *22*(3), 458–478. https://doi.org/10.1108/jfm-04-2022-0037

Byon, K. K., & Jang, W. (william). (2024). Partial least squares sem. In *Encyclopedia of Sport Management* (pp. 702–704). Edward Elgar Publishing.

Calisto de Freitas, C., Godinho Bilro, R., & Henriques Marques, S. (2023). The influence of customer engagement on destination loyalty from a destination marketing organisation perspective. In *Handbook of Customer Engagement in Tourism Marketing* (pp. 115–128). Edward Elgar Publishing.

Chahal, T. B. S. (2020). Everything About 'Brand Equity,. *IPPTA: Quarterly Journal of Indian Pulp and Paper Technical Association*, *32*(2), 101–115.

Chaney, D., & Séraphin, H. (2023). A systematic literature review and lexicometric analysis on overtourism: Towards an ambidextrous perspective. *Journal of Environmental Management*, *347*(119123), 119123. https://doi.org/10.1016/j.jenvman.2023.119123

Haumann, T., Quaiser, B., Wieseke, J., & Rese, M. (2014). Footprints in the Sands of time: A comparative analysis of the effectiveness of customer satisfaction and customer–

company identification over time. *Journal of Marketing*, *78*(6), 78–102. https://doi.org/10.1509/jm.13.0509

Henseler, J., Ringle, C. M., & Sarstedt, M. (2015). A new criterion for assessing discriminant validity in variance-based structural equation modeling. *Journal of the Academy of Marketing Science*, *43*(1), 115–135. https://doi.org/10.1007/s11747-014-0403-8

Huh, J., & Uysal, M. (2004). Satisfaction with cultural/heritage sites: Virginia historic triangle. *Journal of Quality Assurance in Hospitality & Tourism*, *4*(3–4), 177–194. https://doi.org/10.1300/j162v04n03_12

Jasrotia, S. S., Kamila, M. K., & Patel, V. K. (2023). Impact of sustainable tourism on tourist's satisfaction: Evidence from India. *Business Perspectives and Research*, *11*(2), 173–189. https://doi.org/10.1177/22785337211043960

Khan, R. U., Salamzadeh, Y., Iqbal, Q., & Yang, S. (2022). The impact of customer relationship management and company reputation on customer loyalty: The mediating role of customer satisfaction. *Journal of Relationship Marketing*, *21*(1), 1–26. https://doi.org/10.1080/15332667.2020.1840904

Kotler, P. T., & Armstrong, G. (2017). *Principles of marketing*. Pearson.

Kotler, P., Keller, K. L., Brady, M., Goodman, M., & Hansen, T. (2024). *Marketing management* (5th ed.). Pearson Education.

Koutsi, D., & Stratigea, A. (2023). Tourism governance for reaching sustainability objectives in insular territories – case study dodecanese islands' complex, Greece. In *Lecture Notes in Computer Science* (pp. 289–306). Springer Nature Switzerland.

Liestiandre, H. K., Supratayasa, I. G. N. A., Suasapha, A. H., Sumariati, I. D. A. R., & Ngelambong, A. (2024). Are They Still Traveling to Bali Following The Covid-19 Pandemic?: Apakah Wisatawan Masih Melakukan Perjalanan ke Bali Setelah Pandemi Covid-19? *Pusaka : Journal of Tourism, Hospitality, Travel and Business Event*, 240–249. https://doi.org/10.33649/pusaka.v6i2.113

Malhotra, N., Nunan, D., & Birks, D. (2017). *Marketing Research: An Applied Approach*. Pearson.

Marshall, G., & Johnston, M. (2022). *Marketing management ISE* (4th ed.). McGraw-Hill Education.

Mishra, S., & Mishra, J. M. (2024). Overtourism in the Himalayan region: Envisioning sustainable visitors management practices. In *Advances in Hospitality, Tourism, and the Services Industry* (pp. 123–133). IGI Global.

Novita, M. (2025, January 12). *Bali Crowned as Tripadvisor's Best Culture Destination in 2025*. Tempo.Co. https://en.tempo.co/read/1966835/bali-crowned-as-tripadvisors-best-culture-destination-in-2025

Schneider, S., Junghaenel, D. U., Meijer, E., Zelinski, E. M., Jin, H., Lee, P.-J., & Stone, A. A. (2022). Quality of survey responses at older ages predicts cognitive decline and mortality risk. *Innovation in Aging*, *6*(3), igac027. https://doi.org/10.1093/geroni/igac027

Song, Y., Gang, M., & Jung, M. (2017). Korean translation of the barriers to research utilization scale: Psychometric testing. *Research and Theory for Nursing Practice*, *31*(3), 233–246. https://doi.org/10.1891/1541-6577.31.3.233

Weaver, D., & Lawton, L. (2014). *Tourism Management 5E* (5th ed.). John Wiley & Sons.

Wörfel, P., Frentz, F., & Tautu, C. (2022). Marketing comes to its senses: a bibliometric review and integrated framework of sensory experience in marketing. *European Journal of Marketing*, *56*(3), 704–737. https://doi.org/10.1108/ejm-07-2020-0510