



Journal of Multidisciplinary and Translational Research (JMTR)

journal homepage: <https://journals.kln.ac.lk/jmtr/>



The impact of customer perceptions of sustainability practices on brand loyalty, with reference to the hotel industry in Sri Lanka

A.A.D. Sachini Annjala^{1*}

¹*Faculty of Graduate Studies, University of Kelaniya, Sri Lanka*

Abstract

Sustainability practices are a critical aspect of modern businesses and are evident in their success. In the hotel industry, sustainability has evolved from a niche trend to a crucial business strategy, driven by shifting consumer preferences, heightened environmental awareness, and the growing global demand for responsible tourism. Travellers increasingly prioritize eco-conscious options, and hotels are adopting and communicating effective and authentic sustainability practices that can significantly impact their brand loyalty among customers. The World Tourism Organization, in its 2023 sustainability report, stated that 73% of global tourists prefer to select hotels that adopt sustainable practices. This shift in customer preference has led to a significant transformation in the hotel industry. Sri Lankan hotel businesses are also aligned with the global sustainability trend and are increasingly embracing sustainability initiatives, with the intention of establishing a more successful and impactful business. This contemporary research was conducted as a cross-sectional quantitative study to gather the perceptions of tourists who visit and stay in Sri Lankan hotels, regarding sustainability practices and their impact on sustainability. The data were collected through an online structured questionnaire with validated Likert scale items distributed to tourists staying in hotels in Colombo. The sample of the study comprises 384 tourists who visited Sri Lanka in 2024. The data were analyzed using multiple regression analysis. The research results revealed that perceptions of environmental, economic, and social sustainability have a significant impact on brand loyalty. The limitations encountered by the researcher were the quantitative nature of the research, which makes it difficult to capture the true perceptions of the customers, and the limited access to the respondents due to the privacy concerns of the tourists; the researcher suggests conducting a qualitative study by expanding the geographical location of the study in the future.

Keywords: Social sustainability, environmental sustainability, economic sustainability, brand loyalty

Article info

Article history:

Received 13th August 2025

Received in revised form 10th October 2025

Accepted 25th October 2025

Available online 20th December 2025

ISSN (E-Copy): ISSN 3051-5262

ISSN (Hard copy): ISSN 3051-5602

Doi: <https://doi.org/10.4038/jmtr.v10i2.60>

ORCID iD: <https://orcid.org/0009-0002-3402-9322>

*Corresponding author:

E-mail address: aad.anjala@gmail.com (A.A.D. Sachini Annjala)

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Introduction

Sustainability is a concept that can be defined through the interconnected domains, namely the environment, economy, and society (Silva et al., 2021). The concept of sustainability has gained significant attention over the past decades, and consumers are more supportive of businesses that sell sustainable products and services (Chen, 2015). Sustainability has evolved gradually in the late 20th century, and sustainable development has emerged in prominence. The Industrial Revolution in the 18th century led to an increased awareness of environmental issues. The high temperatures, extreme weather conditions, and disruptions in the supply chain were the challenges of exploiting natural resources during the Industrial Revolution. To address these issues, sustainable solutions were proposed to adapt to both global and local processes (Alves, 2024). The popularity of the sustainability concept occurred due to the wide range of social and environmental problems faced by the global community today due to social inequality, unequal distribution of wealth, economic depletion, civil wars and conflict situations, gender inequality and the lack of education, poverty, changing climate conditions, loss of habitats, ecological loss, etc. (Chungyalpa, 2021). Nowadays, consumers are also searching for more sustainable products and services, and they support businesses that adopt sustainable business practices. In 2014, 64% of customers in the Asia Pacific region were willing to pay more for products and services produced by companies that demonstrated greater social responsibility (Businessdasher, 2025).

Sustainability is now being considered a mandatory strategic concern in almost all industries; even in the global hospitality industry, Sustainability is a growing consideration (Iddawala et al., 2024). The hotel industry is one of the vital sectors that can make a significant contribution to achieving the three pillars of sustainable development: social, economic, and environmental. With the increasing awareness of environmental conservation, hotels are taking the initiative to offer greener products and services to customers, and various attributes of Green are incorporated into the hotels, such as participation in environmental partnerships, certification programs, and programs that focus on recycling and using energy-saving alternative methods (Popsa, 2023).

Customer perceptions of the sustainability practices of a business are considered critical factors that impact hotel brand loyalty (Iyengar & Venkatesh, 2024). Travellers increasingly prioritise selecting environmentally friendly options, and hotels that adopt sustainability measures enhance their appeal and foster stronger and deeper relationships with guests (Sharrock et al., 2021). A recent study has revealed that approximately 90% of consumers are seeking sustainable travel experiences, particularly among younger consumers. There is a trend among them to adopt eco-friendly practices that promote exploration of the natural environment and connection with it (Arachchi, 2023). This growing awareness of the customer's sustainability shifts consumer perceptions and expectations (Mandarić et al., 2021). As a result, hotels in Sri Lanka had to align their operations with sustainable concepts. The implementation of sustainability practices in Sri Lankan hotels encompasses various areas, including environmental conservation, economic responsibility, and sociocultural initiatives. However, challenges exist in integrating sustainability practices into hotels, including financial constraints, structural limitations, and a lack of managerial awareness regarding sustainability practices. The perception of high costs for implementing sustainability practices deters investments by large establishments, and the lack of training among staff also impedes the adoption of sustainability practices (Kilburn, 2020).

Sustainability practices play a crucial role in the hospitality industry in shaping customer perceptions and enhancing brand loyalty (Norton, 2024). Hotels that implement sustainable practices enhance their brand equity and customer loyalty (Norton, 2024). The hospitality industry is among the major industries that have a significant negative impact on the environment, as customers commonly perceive it (Moliner et al., 2019). The daily operations of hotels consume a significant number of resources, which has a negative impact on the environment and ecosystems. Hotels heavily rely on water, energy, and non-durable goods and products that emit carbon dioxide (Abdou et al., 2022). In the hotel industry, sustainability practices are primarily focused on environmental, social, and economic aspects. The reduction of energy and water consumption, minimisation of waste, and conservation of biodiversity are among the significant concerns under environmental sustainability practices. Social sustainability practices focus on providing fair employment opportunities and work practices, as well as fostering fair community engagement and ensuring customer well-being. Further ethical sourcing and fair labour standards are also among the social sustainability practices. Economic sustainability practices involve strategies that focus on enhancing the financial performance of hotels while contributing to the achievement of environmental and social goals. In successful marketing, sustainability plays an important role. It also affects brand loyalty, which is a complex phenomenon involving cognitive, emotional, and behavioural dimensions (Khandai et al., 2023). Customers who perceive hotels as environmentally responsible develop positive attitudes towards the hotel, which in turn increases their loyalty to choosing the hotel again. Hence, this study investigated the impact of sustainability practices on customers' perceptions of the hotel brand and their influence on hotel brand loyalty in Sri Lanka. The study assessed the customers' perceptions of sustainability practices and methods to implement more effective sustainability initiatives within hotels, to improve brand recognition and enhance loyalty towards the brand.

The hotel industry plays a pivotal role in Sri Lanka's economy, consuming a significant number of resources and generating a substantial amount of waste for the environment; hence, there are deep concerns about environmental sustainability (Kannangara et al., 2023). In general, the hospitality or hotel industry refers to businesses and organisations that provide services to travellers and tourists, such as food and lodging facilities (Eranda & Muwandeniya, 2022). The hospitality market in Sri Lanka is currently valued at USD 470.76 million and is expected to grow at a compound annual growth rate (CAGR) of 7.5% during the forecast period. Hospitality is a key component of Sri Lankan culture, which promotes the Sri Lankan hospitality industry to the next level. Tourism is the third-largest sector contributing to the Sri Lankan economy. It accounts for 4.3% of Sri Lanka's gross domestic product (GDP) and 13.3% of the country's total foreign exchange earnings, providing more than 450,000 employment opportunities to people in the country, both directly and indirectly (Mordor Intelligence, 2024). Although the Sri Lankan hospitality industry experienced a significant decline following the Easter attack and COVID-19 (Hasna & Sachithanantham, 2021; Kodithuwakku & Samarakoon, 2020), it continued to record growth in both international and tourist arrivals, as well as tourism revenue. The hotel industry is projected to generate a revenue of USD 180.40 million by 2024, with an annual growth rate of 11.17% (CAGR 2024-2029). This highlights the industry's greater growth potential. Furthermore, the number of users in the market is also expected to increase, reaching 1.50 million by 2029. The user penetration rate was 6.3% in 2024 and is projected to grow to 6.8% by 2029.

Hotels in Sri Lanka are now focusing more on sustainable aspects, including improving environmental performance, greening the supply chain, and promoting green hotels and

products. The hotels are able to reduce their energy use by 8.29% and decrease waste discharge by 14.2%, resulting in a 20% reduction in solid waste through these projects. These improvements in efficient resource use and sustainability generate more benefits for hotels in Sri Lanka (SwitchAsia, 2014). However, in the Sri Lankan context, there is a lack of understanding about the implementation of sustainability practices in hotels (Kannangara et al., 2023).

In Sri Lanka, over the past decade, the hospitality industry has observed a significant movement towards sustainability, with several established hotels incorporating sustainable practices into their operations (Iddawala et al., 2024). Figure 1 contextualises the distribution of global sustainable tourism certifications among tourist businesses in Sri Lanka. The figure presents the number of certified businesses by certification schemes that represent distinct internationally recognised sustainability certification applicable to either tour operators or accommodation providers.

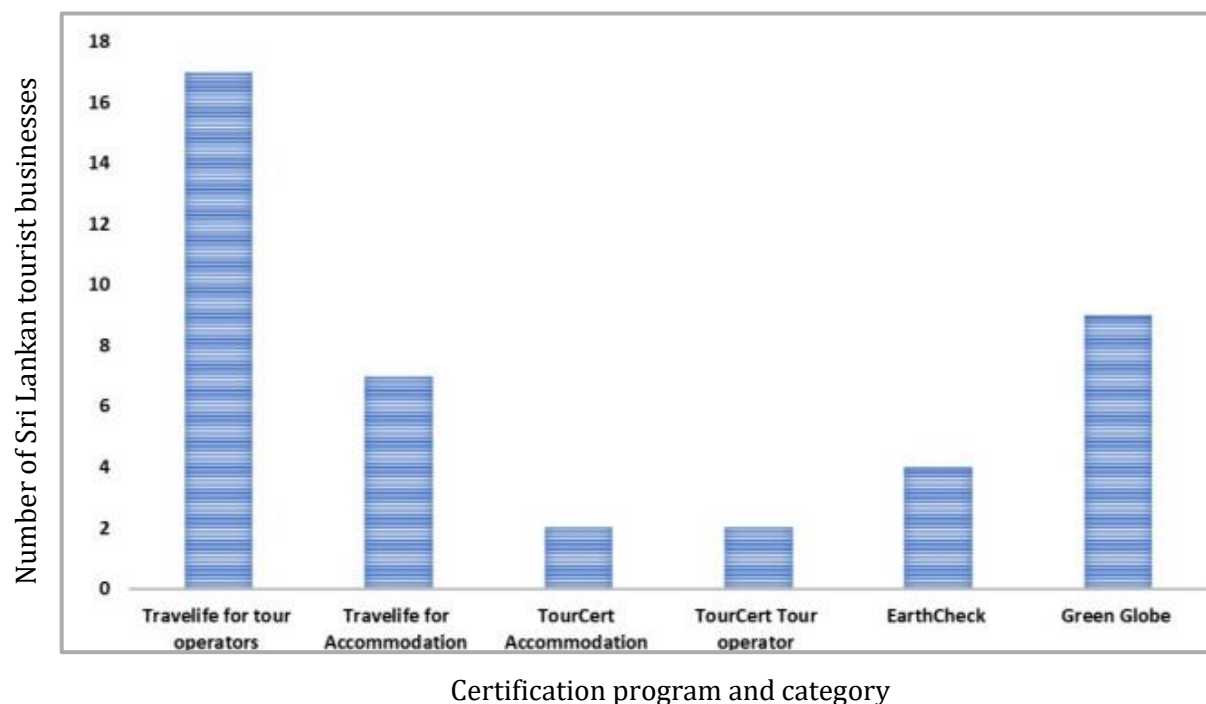


Figure 1. Number of tourist businesses in Sri Lanka certified under the global sustainable tourism certification (United States Agency for International Development /USAID, 2023)

A study conducted in 2021 revealed that 81% of travellers plan to select sustainable accommodation in the coming year for their travelling experiences. A survey conducted by Hilton Worldwide in 2018 also shows that one-third of guests research the environmental practices of a hotel and social impact before booking. Additionally, 44% of the guests are under the age of 25, indicating that younger customers are more inclined towards sustainable environmental practices. Furthermore, a Booking.com survey in 2020 indicates that 53% of travelers desire to travel in a more sustainable manner (Hu & Hollander, 2024). Hence, it is essential for hotels to adopt sustainable practices and implement them in their business operations to attract more customers.

The hotel sector is considered to have significant potential to create adverse environmental effects. Concern for the sustainability of the hotel industry has significantly grown in recent years.

The hotel industry is facing constant changes, which are caused by changes in consumer habits. There has been an increase in the number of travelers who are oriented towards sustainable tourism in recent years (Popsa, 2023).

This study addresses the crucial need for hoteliers to be aware of sustainability initiatives in order to attract visitors to their hotels. This research addresses the practical gap by providing significant information required by Sri Lankan hotels to make strategic decisions on investments for sustainability initiatives. Furthermore, this research helps to understand consumer behavior towards sustainability. Further, this research addresses the empirical research gap by expanding the knowledge available regarding the sustainability initiatives of hotels and their impact on hotel brand loyalty. Although numerous research studies have been conducted on this subject, in the context of Sri Lanka, there is a need for further studies related to customer perceptions of sustainability initiatives to enhance hotel brand loyalty.

The primary objective of this research was to investigate customer perceptions of sustainability practices and their impact on brand loyalty in hotels in Sri Lanka. Investigating the impact of environmental sustainability practices, social sustainability practices, and economic sustainability practices on brand loyalty in Sri Lanka's hospitality industry was one of the study's sub-objectives.

In December 2018, the Sri Lankan Tourism Authority became a member of the Global Sustainable Tourism Council by signing a memorandum of understanding with the Global Sustainable Tourism Council (USAID, 2023). Sri Lanka Tourism Development Authority has implemented the national certification scheme. National Sustainable Tourism Certification (NSTC) was established to recognise the significant and complex nature of all the service providers in the country. Moreover, the implementation of this certification facilitates sustainability practices in the hospitality industry. Thirty-seven hotels were recognised for the awards based on their impressive sustainable practices in various service categories, as determined through internal and external hotel auditing processes, under the platinum, gold, silver, and bronze categories (Dilshan & Toko, 2022).

Over the last decade, the hospitality industry in Sri Lanka has observed a positive shift towards sustainability, with many established and strong hotels in the industry incorporating sustainable practices into their business operations. Moreover, a significant number of sustainability-related studies have not received the attention they deserve, considering the industry's prominence in this sustainability concept (Iddawala et al., 2024). Hence, this study focused on the sustainability practices of Sri Lankan hotels and the customer perceptions of these practices to improve hotel brand loyalty.

This study is significant for several reasons. It explores how the customer perceives the sustainability efforts of the hotel and the extent to which these perceptions influence brand loyalty. Hence, the findings of the study specifically support the development of strategies that help to improve the brand loyalty of the hotels. The findings of the study support building stronger, more loyal customer relationships to guide the government authorities in implementing their programs to support sustainability initiatives among hoteliers.

This contemporary research study was mainly supported by the theories of social exchange, customer loyalty theory and the theory of planned behaviour. Social exchange theory guides the study, as consumers perceive the sustainability practices of hotels as giving back to society and the environment. This reciprocity has a positive impact on customer trust and loyalty. Customer loyalty theory examines the role of emotional and psychological factors in influencing customer loyalty, finding that emotional attachment has the greatest impact on customer loyalty when making repeat purchases. Lastly, the theory of planned behaviour assists in comprehending the behavioural intentions toward loyalty to brands. This theory can be utilised in this study to understand how customers' attitudes towards sustainability practices and social norms regarding environmental responsibility affect loyalty behaviour.

Brand loyalty

The concept of brand loyalty is intricate since it involves cognitive, emotional, and behavioural aspects (Dapena-Baron et al., 2020). Customer loyalty provides companies with many notable benefits, such as positive word of mouth and increased resistance to competition methods among loyal consumers. A growing body of research suggests that consumers who are loyal to a particular brand are willing to pay a higher price for it. Consumer preferences are increasingly shifting towards high-quality goods that align with both environmental and social values (Hardana et al., 2025). Brand loyalty is recognised as a brand asset that firms invest in to protect and develop (Permata et al., 2023). Brand loyalty is an important concept that must be exercised to support competitive strength and long-term rewards in the hotel industry. Most organisations consider it as one of the significant variables that influence customers' loyalty, financial results, and marketing expenses. In another study conducted by Bianchi and Andrews (2018), the authors found that improving customer loyalty helps retain customers and increases the probability of achieving another booking in the competitive hospitality industry, which significantly boosts revenue (Bianchi & Andrews, 2018). There has been an appreciation that customer loyalty supersedes new customers, depending on patronage behaviour, as customers spend more time and money in the business. Additionally, repeat guests help reduce marketing expenses, as word-of-mouth advertising is more efficient than other methods. Furthermore, brand loyalty plays a crucial role in maintaining consumption levels during periods of economic crisis or emergency. Sürücü et al. (2019) also noted that customer loyalty, which is associated with the best brand hotels, can help manage market instabilities because customers will remain loyal to them during unfavourable moments (Sürücü et al., 2019). In total, the company must, therefore, build a loyal audience to retain financial benefits, gain a competitive advantage, and utilise operational resources (Chinomona & Sandada, 2013).

Sustainability practices

Environmental sustainability can be described as the activities and measures taken or implemented to help maintain the integrity of the environment. It is concerned with the elimination or mitigation of pollution, preservation of resources, and support for biological variability (Dyllick & Hockerts, 2002). Sustainability has become a significant factor in managing a company's activities, particularly in the hospitality field, considering the unfavourable effects of environmental and resource consumption. For instance, new research reveals that more focus should be directed towards the preservation of energy and water, as well as the proper disposal

of waste, as this is central to protecting the environment and furthering the competitive edge of a hotel.

Social sustainability can, therefore, be defined as initiatives that ensure the social well-being of employees, customers, and society at large. Some examples are labour rights, diversity and inclusion policies, relations with stakeholders and the community, and its involvement in social issues (Singh, 2024). Social sustainability addresses concerns of a business about the effects it has on social justice, stakeholders, and workers. Finally, in the context of the hotel industry, social sustainability can be defined as respecting labour rights, supporting communities, and acting in accordance with policies of non-discrimination and diversity.

A Study conducted demonstrates that personnel working for establishments that implement social sustainability policies, including fair wages and ethical working conditions, report higher worker satisfaction and lower turnover rates (Gazi et al., 2024). Furthermore, stakeholder interactions, such as sourcing locally and contributing to community social programs, also enhance the fabric of the community and benefit the hotel by promoting its brand image and fostering customer loyalty (Kasim et al., 2022).

Economic sustainability is the provision of an environment and management capacity to sustainably support economic activities and make balanced economic resources available for use. Measures for this include integrating cash-generating initiatives with the need to invest capital in programs that benefit the business, its clients, and the world in the long term (Savitz & Weber, 2006).

The findings of more recent investigations show that mainstreaming economic sustainability into operations bears long-term benefits. For instance, studies by Chen et al. (2022) show that there is a positive relationship between environmental concerns and operational cost and financial performance among hotels; this includes programmes and technologies such as recycling and renewable energy sources. Furthermore, economic sustainability plays the role of benchmarking hotels and placing them in a better range in the market in terms of attracting investors. In addition, another perspective on economic sustainability is that markets must adapt to changes in the economic environment, including market and economic crises, while ensuring stable revenues and profits (Zhou & Luo, 2021). Moreover, the study conducted by Agu et al. (2024) emphasised that aspects of economic sustainability enhance investor confidence and its ability to achieve financial performance over time, thereby increasing brand loyalty (Agu et al., 2024). Furthermore, according to a research study by Guetal (2024), hotels committed to economic sustainability can enhance their brand reputations, which helps retain eco-conscious travellers and corporate clients (Guetal, 2024).

The impact of sustainability practices on brand loyalty

Sustainability practices have enhanced brand loyalty by improving customer retention, fostering a positive brand image, and providing a competitive advantage (Ebele et al., 2024). Consumers purchase from brands that are perceived as socially responsible and ethical. Socially responsible projects, such as corporate social responsibility (CSR) initiatives, enhance brand loyalty (Yuan et al., 2023). The environmental dimension of sustainability practices influences the establishment

of an eco-friendly image and demonstrates efforts to ensure environmental protection, while the economic dimension ensures the achievement of both long-term and short-term goals to enhance financial performance through competitive advantage (Nguyen et al., 2022).

A study by Yang and Yang (2019) found a significant correlation between environmental management and customer loyalty (Yang and Yang, 2019). Further, several other studies have identified that environmental sustainability significantly affects brand loyalty (Tanford & Jung, 2017). Hence, hypothesis 1 (H1) was developed as follows.

H1: There is a significant impact of environmental sustainability practices on brand loyalty.

The aspects of economic sustainability enhance investor confidence and its ability to achieve financial performance over time, increasing brand loyalty (Agu et al., 2024). Moreover, research studies show that hotels committed to economic sustainability can enhance their brand reputations, which helps to retain eco-conscious travellers and corporate clients (Gueta, 2024). Based on these findings, the hypothesis 2 (H2) was developed

H2: There is a significant impact of economic sustainability practices on brand loyalty.

Moreover, several research findings revealed that when businesses integrate sustainability into their strategies, especially social and environmental sustainability practices, this cultivates deeper connections and loyalty with the customer base (Amankona et al., 2024; Rivera et al., 2019) that support the hypotheses. Thus, hypothesis 3 (H3) was developed.

H3: There is a significant impact of social sustainability practices on brand loyalty.

The above empirical findings supported the development of the conceptual framework for the study. Figure 2 shows the conceptual framework of the study.

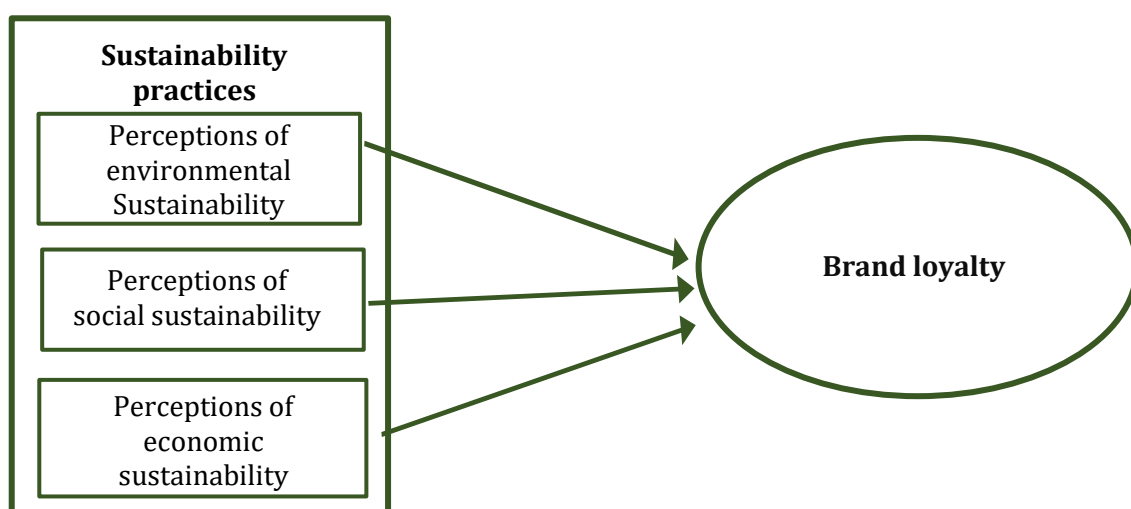


Figure 2. Conceptual model for impact of environmental, economic and social sustainability on brand loyalty

Methodology

This study employed a theoretically well-grounded, explicitly specified empirical model based on the social exchange theory, customer loyalty theory, and the theory of planned behavior, where the perceptions of environmental, social, and economic sustainability are modelled as predictors of brand loyalty in the hotel sector. All constructs were operationalized using measurement items adapted from well-established prior studies, and responses were gathered using a five-point Likert scale. The justification for variable selection and measurement was provided through an operationalization framework, ensuring validity and reliability. Reliability is confirmed through Cronbach's alpha values exceeding recommended thresholds. The model incorporates all theoretically relevant sustainability dimensions consistently identified in the literature, and the relationships were simultaneously estimated using multiple regression analysis, thereby enhancing the robustness and explanatory power of the model.

Operationalization of the study variables are presented in Table 1, detailing the indicators used to measure environmental, social, and economic sustainability practices, as well as brand loyalty in the hotel industry. Environmental sustainability was captured through energy-saving initiatives, the use of renewable energy sources, and updates to environmental practices. Social sustainability was measured using indicators related to employee welfare, community engagement, and diversity and inclusion. Economic sustainability was operationalized through financial stability, cost management, and revenue growth. Brand loyalty was assessed using multiple dimensions, including repeat purchase behavior, customer satisfaction, brand preference, trust, emotional attachment, and likelihood to recommend. All constructs were measured using items adapted from established literature, ensuring content validity and consistency with prior empirical studies.

Table 1: Operationalization

Variable	Indicator	Source	Scale	Que. No
Environmental sustainability	Energy-saving	(Smith & Brown, 2023)	1-5 Likert Scale	ES01
	Renewable energy sources			ES02
	Environmental practice updates			ES03
Social sustainability	Employee welfare programs	(Johanson & Davis, 2022)	1-5 Likert Scale	SS01
	Community engagement			SS02
	Diversity and inclusion			SS03
Economic sustainability	Financial stability and profitability	(Lee & Chen, 2021)	1-5 Likert Scale	EcS01
	Cost management			EcS02
	Revenue growth			EcS03
Brand loyalty	Repeat purchase behaviour	(Lee et al., 2023)	1-5 Likert Scale	BL01
	Customer satisfaction			BL02
	Brand preference			BL03

Variable	Indicator	Source	Scale	Que. No
	Likelihood to Recommend			BL04
	Perceived Value for Money			BL05
	Emotional Attachment			BL06
	Brand Trust			BL07
	Brand Differentiation			BL08

The research methodology was based on the research onion model (Saunders et al., 2009). This contemporary study adopted a positivist research philosophy grounded in the belief that reality is objective and can be observed and described from an objective viewpoint without interference from the researcher's beliefs or values (Saunders et al., 2019). A deductive approach was adopted for this study. Deductive reasoning involves developing a hypothesis based on existing theory and then designing a research strategy to test this hypothesis. Theories such as social exchange, customer loyalty theory, and the theory of planned behavior, which relate to sustainability and brand loyalty, were adopted to test the hypotheses. Survey research was employed as a cost-effective strategy for systematically collecting data from a larger population consisting of a diverse audience across different geographical locations in the Country to increase the generalizability of the findings. A quantitative approach was employed to enable systematic measurement and analysis of variables through statistical analysis. The mono-method quantitative research approach is suitable for the study, as it focuses on quantitative data to address the research objectives. Moreover, the study employed a cross-sectional time horizon, gathering data at a single point in time to provide a snapshot of current customer perceptions of sustainability practices and their impact on hotel brand loyalty.

Ethical considerations

Informed consent was obtained prior to data collection. The participants were informed about the goals and objectives of the research, as well as the benefits and risks involved. Further voluntary participation was encouraged, and no coercive power was used for the data collection. The confidentiality of the data was protected by storing it anonymously on separate platforms with limited access.

Population and sample

The Population of the study consists of tourists who arrived in Sri Lanka in the year 2024. There were 2,053,465 tourists who arrived in Sri Lanka from January to December 2024, as per the report published by the Sri Lanka Tourist Development Board (Sri Lanka Tourism Development Authority, 2024). According to the Morgan table, the sample size was determined to be 384, and the respondents were selected from hotels in the Colombo area, purposively chosen by the researcher for the study. The questionnaire was distributed to the respondents via Google Forms on social media platforms and email. The data were analyzed using IBM SPSS 25.0.0 software, employing both inferential and descriptive statistics techniques, including correlation and multiple regression analysis.

Results

The quantitative data gathered using the questionnaire were analyzed using both descriptive and inferential statistical methods for data analysis, with an effective response rate of 76.8%. 62.5% of the total respondents were male, and 37.5% were female. The majority of respondents belonged to the 35-44 age category, accounting for 46.6% of the total respondents. This analysis further revealed that most tourists who visited Sri Lanka during that period belonged to the younger generation. This sample consisted primarily of tourists from Europe, accounting for 48.8%. Additionally, 27.1% of the tourists were from Asia, and another group included tourists from South Africa, South America, North America, and Australia. Only 0.8% of the tourists who participated in this study were from countries other than those mentioned above.

Reliability analysis

The internal consistency of the data gathered was assessed to test the reliability of the data used in the analysis based on Cronbach's alpha statistical test (Table 2).

Table 2: Reliability of data

Variable	Cronbach's Alpha value	N of Items
Environmental sustainability	0.80	3
Social sustainability	0.80	3
Economic sustainability	0.74	3
Brand loyalty	0.83	8

Environmental sustainability, economic sustainability, and social sustainability have a Cronbach's alpha value of 0.7, which is acceptable as a measure of reliability. Brand loyalty has a Cronbach's alpha value of 0.83, indicating a high level of reliability. The Kaiser-Meyer-Olkin (KMO) and Bartlett's test were used to assess the validity of the data set, evaluating the suitability of the data. This test yielded a KMO value of 0.78 with a significance value of 0.000, indicating that the data are valid and adequate for the analysis.

Regression analysis

Multiple regression analysis was used to investigate the impact of the predictor variables on brand loyalty and test the hypotheses. Before performing a multiple regression analysis, several key statistical assumptions were examined to confirm that the analysis's output would be valid. The assumptions of linearity and homoscedasticity were examined using scatterplots displaying standardized residuals. The scatterplots clearly demonstrated no systematic patterns. The assumption of normality of residuals was assessed by histograms and normal probability plots. The histogram and normal probability plots indicated that the distribution of residuals was approximately normal. Tolerance and variance inflation factor (VIF) values were reviewed for multicollinearity; all values fell within acceptable thresholds. The Durbin-Watson statistic confirmed that the errors were independent, indicating that no autocorrelation was present. Overall, all of the diagnostic results support the satisfactory meeting of regression assumptions.

To improve interpretability, 95% confidence intervals and standardized effect sizes were also calculated. The ANOVA results indicate that the regression model is statistically significant ($F = 10.47$, $p < 0.001$), demonstrating that environmental, social, and economic sustainability jointly have a significant effect on brand loyalty. This confirms that the model provides a significantly better fit than a null model with no predictors, supporting the overall validity of the proposed regression framework.

The multiple regression analysis showed the impact of the three predictor variables on brand loyalty. The model table of the regression analysis shows an R-squared value of 0.67, indicating that the predictor variables explain 67.1% of the variance in the dependent variable. This indicates that sustainability practices play a crucial role in fostering brand loyalty. The coefficient table of the multiple regression analysis, as shown below, uses the unstandardized coefficient to discuss the impact of the predictor variables on brand loyalty.

Accordingly, the B value of environmental sustainability is 0.12, and the significance value is 0.001, indicating a positive and significant impact of environmental sustainability on brand loyalty. Social sustainability has a B value of 0.41 and a significance value of 0.000, indicating a highly significant and positive impact on brand loyalty. This variable holds the highest t-value of 10.60, suggesting that social sustainability has the greatest impact on brand loyalty among the other two predictor variables. Economic sustainability has a B value of 0.26 and a significance value of 0.000, which confirms a significant and positive impact on brand loyalty (Table 3). Furthermore, multicollinearity among the variables is low, indicating that the independent variables do not have a strong influence on each other.

Table 3: Multiple regression analysis of the three predictor variables on brand loyalty.

variable	Unstandardize d coefficient B	Standardize d coefficient	Sig. value	Status	Decision
Environmental sustainability	0.12	0.08	0.001	Positive and Significant Impact	H1 Accepted
Social sustainability	0.41	0.35	0.000	Positive and Significant Impact	H2 Accepted
Economic sustainability	0.26	0.25	0.000	Positive and Significant Impact	H3 Accepted

Therefore, the regression model for this study can be developed as follows,

Equation 1: Equation for Multiple Regression Model

$$\text{Brand loyalty} = \beta_0 + \beta_1 (\text{ES}) + \beta_2 (\text{SS}) + \beta_3 (\text{ECS}) + \varepsilon$$

$$\text{Brand Loyalty} = 0.935 + 0.12(\text{ES}) + 0.41 (\text{SS}) + 0.26(\text{ECS}) + \varepsilon$$

Where:

BL = Brand Loyalty

ES = Environmental Sustainability

SS = Social Sustainability

ECS = Economic Sustainability

β_0 = Constant (intercept)

$\beta_1, \beta_2, \beta_3$ = Regression coefficients
 ε = Error term

Discussion

The findings of the contemporary study revealed that environmental sustainability has a significant and positive impact on brand loyalty, with a B value of 0.12 and a significance value of 0.001. This suggests that when hotels increase their environmental sustainability practices by investing in these programs, the brand reputation will be enhanced by 0.12 units. This research confirms and builds upon existing literature regarding sustainability in the hospitality industry and the relationship between brand loyalty and sustainability. Specifically, the effect of environmental sustainability on brand loyalty reinforces earlier studies that show that promoting energy efficiency, reducing waste, and implementing eco-friendly initiatives can enhance customer perceptions and increase repeat patronage (Tanford & Jung, 2017; Yang & Yang, 2019). The impact of social sustainability on brand loyalty is likewise supported by previous studies indicating that by engaging in fair labour practices, community engagement, and ethical practices, hotels create emotional attachment to their brands, which builds customer trust and encourages brand loyalty (Nguyen & Simkin, 2022; Lee et al., 2023).

The influence of economic sustainability on brand loyalty further supports recent findings from previous studies indicating that financially stable and well-managed hotels are viewed as more reliable and value-oriented, thus increasing customer loyalty intentions (Chen et al., 2022; Agu et al., 2024). This further aligns with the stakeholder theory and the resource-based view. Together, the results of this research confirm the multidimensional nature of sustainability and assert the significant influence of sustainability on the development of brand loyalty to hotels within Sri Lanka. These findings collectively highlight that a holistic approach to sustainability not only supports organisational performance but also strengthens consumer commitment to the brand.

Although the contemporary study revealed that economic sustainability has a positive and significant influence on brand loyalty, previous research suggests that this effect may depend on how consumers perceive and interpret economic sustainability practices. For instance, when economic sustainability is communicated clearly and enhances perceived value and trust, it strengthens loyalty outcomes in hospitality contexts, such as perceived sustainability positively influences guest loyalty and intentions to revisit (Dedat & Rodrigues, 2025). However, some scholars caution that sustainability efforts, if perceived as superficial, insincere, or primarily profit-driven, can lead to consumer scepticism and weaken loyalty unless supported by authentic communication and strong brand image mediation. For instance, the link between sustainability and loyalty often operates through brand image and credibility (Rastogi et al., 2024).

Accordingly, the researcher has adequate evidence to accept the alternative hypothesis (H1) that there is a significant and positive impact of environmental sustainability on brand loyalty. This finding of the contemporary study also aligned with the findings of the literature review. The study by Yang and Yang (2019) found that environmental management has a significant correlation with customer loyalty.

This analysis reveals that economic sustainability has a positive and significant impact on brand loyalty, with a significance value of 0.000, indicating a strong and positive impact; hence, the

research hypothesis H3 has sufficient evidence to be accepted. Further, these findings are aligned with previous research findings.

However, focusing solely on sustainability practices in the environment, society, and economics does not comprehensively reflect the cultural initiatives that can affect brand loyalty, which is a conceptual limitation of this study. In addition, this study was limited to the hotels in the Colombo district and does not cover the perceptions of the tourists in other hotels of Sri Lanka. Furthermore, conducting a mixed-methods study or a qualitative study may provide the opportunity to gain a deeper understanding of customer perceptions.

Conclusions

The research findings revealed that sustainability practices, encompassing environmental, social, and economic sustainability, have a significant and positive impact on brand loyalty. Further, this study provided significant insights into how sustainability practices contribute to brand loyalty. Based on the findings of the study, social sustainability practices and economic and environmental sustainability practices need to be re-evaluated and strengthened. Hotel businesses can improve their social sustainability through initiatives such as promoting diversity and inclusion in the workplace, engaging in community development projects, and enhancing employee well-being through improved policies. Communicating these efforts of the hotel businesses effectively to the customers will bring several benefits to the organisations. It is essential for hospitality businesses to develop an integrated sustainability communication platform to demonstrate their efforts in environmental, social, and economic sustainability. Businesses can use digital platforms, customer testimonials, and company sustainability reports to develop consumers' trust.

Moreover, it is essential to regularly monitor and adjust the strategies that businesses have implemented so far in response to stakeholder feedback. Businesses must gather feedback regularly from stakeholders and adjust their approach to meet their evolving needs.

Declaration of Funding Sources

The authors of this study received no financial support for the research.

Conflict of interest statement

The authors declare no conflict of interest.

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