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Enhancing Sustainable Consumption Behavior among Tourists in Pakistan's Eco-Tourism Sector: The Role of Eco-Friendly Destination Image and Environmental Awareness through Sustainable Attitudes

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Abstract

This thesis investigates the behavioral mechanisms that encourage sustainable consumption behavior among tourists within Pakistan's eco-tourism sector, an area that has gained increasing importance due to environmental degradation, unmanaged tourism growth, and the need for inclusive economic development. Although Pakistan possesses diverse ecological destinations, the tourism industry continues to face challenges related to environmentally irresponsible tourist practices, limited sustainability awareness, and weak destination branding strategies. Drawing on sustainability behavior and attitudinal perspectives, this study examines how eco-friendly destination image and environmental awareness function as critical antecedents shaping tourists' sustainable attitudes, which subsequently influence sustainable consumption behavior. In addition, the study incorporates perceived behavioral control as a moderating factor to explain variations in how sustainable attitudes are translated into actual consumption practices. The research further extends the model by assessing how sustainable consumption behavior contributes to destination economic impact, thereby linking environmental responsibility with long-term economic benefits for eco-tourism destinations. Using a quantitative research design, data are collected from tourists visiting major eco-tourism locations across Pakistan, enabling empirical validation of the proposed conceptual framework. Advanced statistical techniques are employed to test direct, mediating, and moderating relationships among the constructs, offering a comprehensive understanding of tourist decision-making processes in a developing country context. The findings are expected to demonstrate that a positive eco-friendly destination image and higher levels of environmental awareness significantly strengthen tourists' sustainable attitudes, which in turn promote responsible consumption behaviors. Moreover, perceived behavioral control is anticipated to enhance the strength of this relationship by enabling tourists to act upon their sustainability intentions more effectively. By establishing a clear connection between sustainable tourist behavior and destination-level economic outcomes, this research contributes both theoretically and practically to sustainable tourism literature. The study offers valuable insights for policymakers, destination managers, and tourism marketers by highlighting the importance of strategic destination branding, environmental education initiatives, and supportive infrastructure that empowers tourists to engage in sustainable practices. Ultimately, this research provides an evidence-based framework to support environmentally responsible tourism development in Pakistan while ensuring economic

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resilience and long-term sustainability of eco-tourism destinations.

Keywords: behavioral sustainability, destination branding, destination economic impact, developing economies, eco-friendly destination image, eco-tourism, environmental awareness, environmental perception, environmental responsibility, green tourism, Pakistan tourism, perceived behavioral control, responsible tourism, sustainability attitudes, sustainable consumption behavior, sustainable destination management, sustainable tourism development, tourism economics, tourist behavior, tourist sustainable attitude

1.1 Problem Statement

Eco-tourism has increasingly been positioned as a strategic pathway for balancing environmental protection with economic development, particularly in countries endowed with rich natural and cultural resources. Pakistan possesses substantial eco-tourism potential due to its diverse landscapes, including mountainous regions, forests, wetlands, deserts, and coastal ecosystems. Over the past decade, tourism activity in these areas has grown rapidly, driven by improved accessibility, digital exposure, and rising domestic travel demand. Despite this growth, eco-tourism development in Pakistan has largely progressed without a corresponding emphasis on sustainability-oriented tourist behavior. As a result, many eco-tourism destinations face escalating environmental stress, including waste accumulation, water contamination, biodiversity disturbance, and degradation of fragile ecosystems. These issues are not solely the outcome of infrastructural limitations or weak regulatory enforcement; rather, they are deeply connected to tourists' consumption patterns and behavioral choices during travel experiences.

1.2 Objectives of the Study

The primary objective of this study is to develop a comprehensive and context-specific understanding of the factors that shape sustainable consumption behavior among tourists within Pakistan's eco-tourism sector. As eco-tourism continues to expand across environmentally sensitive regions of the country, there is a growing need to identify behavioral drivers that encourage tourists to act responsibly while simultaneously supporting destination-level economic sustainability. This study is designed to move beyond descriptive discussions of sustainability by empirically examining the psychological, perceptual, and situational mechanisms through which tourists' environmental perceptions are transformed into concrete consumption practices. By adopting an integrated behavioral framework, the research aims to generate insights that are both theoretically meaningful and practically

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applicable for sustainable tourism development in Pakistan.

1.3 Research Questions

1. How does eco-friendly destination image influence tourists' sustainable attitudes and sustainable consumption behavior within Pakistan's eco-tourism sector?
2. To what extent does environmental awareness contribute to the development of tourists' sustainable attitudes and their engagement in responsible consumption practices during eco-tourism activities in Pakistan?
3. Does tourist sustainable attitude mediate the relationship between eco-friendly destination image, environmental awareness, and sustainable consumption behavior among tourists in Pakistan's eco-tourism destinations?
4. How does perceived behavioral control moderate the relationship between tourists' sustainable attitudes and sustainable consumption behavior, and how does this behavior subsequently impact destination-level economic outcomes in Pakistan's eco-tourism sector?

1.4 Significance of the Study

This study holds substantial significance at theoretical, empirical, managerial, and policy levels by addressing a critical gap in the understanding of sustainable tourist behavior within Pakistan's eco-tourism sector. As tourism continues to expand in environmentally sensitive regions, the sustainability of natural destinations increasingly depends on tourists' consumption patterns and behavioral choices. While eco-tourism is often promoted as an environmentally responsible alternative to mass tourism, its success ultimately relies on the willingness and ability of tourists to engage in sustainable consumption behavior. By examining the behavioral mechanisms that shape such behavior, this research contributes meaningful insights that extend beyond descriptive sustainability narratives and offer actionable knowledge for long-term destination sustainability.

From a theoretical perspective, this study contributes to sustainable tourism and consumer behavior literature by integrating multiple behavioral constructs within a single, cohesive framework. Existing research has frequently examined eco-friendly destination image, environmental awareness, or sustainable behavior in isolation, resulting in fragmented insights that fail to capture the complexity of tourist decision-making processes. This study advances theory by positioning tourist sustainable attitude as a central mediating mechanism through which environmental perceptions are translated into actual consumption behavior. By incorporating perceived behavioral control as a moderating factor, the research further

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enhances explanatory power by acknowledging the role of situational constraints and enabling conditions. This integrated approach strengthens the theoretical understanding of how cognitive, attitudinal, and contextual factors interact to influence sustainable consumption behavior in tourism settings.

1.5 Limitations of the Study

While this study is designed to provide a comprehensive and context-specific understanding of sustainable consumption behavior among tourists in Pakistan's eco-tourism sector, it is subject to several limitations that should be acknowledged to ensure a balanced interpretation of the findings. Recognizing these limitations is essential for maintaining academic rigor, transparency, and realism, particularly in behavioral research where contextual and methodological constraints may influence outcomes. The limitations outlined below do not undermine the value of the study; rather, they highlight areas where caution is required and where future research can build upon the present findings.

One of the primary limitations of this study relates to its reliance on self-reported data collected from tourists. Sustainable consumption behavior, environmental awareness, and attitudinal constructs are inherently subjective and are often measured through survey-based instruments. Respondents may overstate their environmentally responsible behavior due to social desirability bias, particularly when sustainability is perceived as a socially approved norm. As a result, there may be discrepancies between reported behavior and actual on-site practices. Although this study employs carefully designed measurement items to minimize response bias, the possibility of inflated sustainability claims cannot be entirely eliminated. This limitation is common in behavioral research and should be considered when interpreting the strength of observed relationships.

- Reliance on self-reported data, which may introduce social desirability bias
- Cross-sectional research design limiting causal inference
- Restricted geographical coverage of eco-tourism destinations
- Focus on tourist perspectives without incorporating other stakeholder views
- Limited consideration of additional psychological and contextual variables
- Quantitative approach without complementary qualitative insights
- Temporal constraints due to evolving tourism and sustainability dynamics

1.6 Scope of the Study

The scope of this study is carefully defined to ensure a focused, systematic, and meaningful

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examination of sustainable consumption behavior among tourists within Pakistan's eco-tourism sector. By clearly outlining the boundaries of the research, this section specifies the conceptual, geographical, methodological, and analytical limits within which the study is conducted. Defining the scope is essential for maintaining coherence between the research objectives, theoretical framework, and empirical analysis, while also ensuring that the findings remain relevant, reliable, and applicable to the targeted context.

Conceptually, this study is scoped around an integrated behavioral framework that examines how eco-friendly destination image and environmental awareness influence tourists' sustainable consumption behavior through the mediating role of tourist sustainable attitude. In addition, perceived behavioral control is incorporated as a moderating variable to capture the extent to which tourists' perceived ability to act responsibly strengthens or weakens the relationship between sustainable attitudes and actual behavior. The study further extends its conceptual scope by including destination economic impact as an outcome variable, thereby linking individual-level consumption behavior with broader economic implications for eco-tourism destinations. By focusing on these specific constructs, the research aims to provide a comprehensive yet manageable framework that captures key psychological and contextual drivers of sustainability-oriented tourist behavior.

Chapter No. 2 – Literature Review

Literature Review of Eco-Friendly Destination Image

Eco-friendly destination image has emerged as a central construct in sustainable tourism literature, reflecting tourists' overall perceptions of a destination's environmental responsibility, conservation commitment, and sustainability-oriented practices. An eco-friendly destination image is not limited to visual representations of natural beauty; rather, it encompasses tourists' beliefs regarding environmental policies, green infrastructure, waste management practices, community involvement, and responsible tourism governance. Recent studies emphasize that destination image functions as a powerful cognitive and affective signal that shapes tourists' expectations, evaluations, and behavioral responses before, during, and after travel experiences. When destinations are perceived as environmentally responsible, tourists are more likely to associate their visits with ethical consumption, moral obligation, and long-term sustainability values, which subsequently influence their attitudes and consumption-related decisions (Khan & Ahmed, 2022). In the context of eco-tourism, destination image plays a particularly influential role because tourists actively seek

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destinations that align with their environmental values and sustainability concerns. Research conducted in diverse tourism settings has consistently demonstrated that eco-friendly destination image positively influences tourists' favorable evaluations of destinations, enhances trust in destination management, and strengthens emotional attachment to environmentally responsible places (Girish & Lee, 2020; Styliadis et al., 2021). Scholars argue that an eco-friendly image reduces perceived environmental risk and reassures tourists that their travel activities will not contribute to ecological degradation, thereby encouraging responsible consumption behavior (Han et al., 2020). Furthermore, eco-friendly destination image has been found to serve as an informational cue that simplifies tourists' decision-making processes, particularly in situations where detailed sustainability information is limited or difficult to evaluate (Agyeiwaah et al., 2021). From a behavioral perspective, destination image influences not only destination choice but also in-destination behavior, including energy conservation, waste reduction, and support for local eco-friendly services. Studies indicate that tourists who perceive a destination as environmentally committed are more likely to comply with sustainability guidelines and voluntarily engage in pro-environmental actions during their stay (Su et al., 2021; Ribeiro et al., 2022).

Literature Review of Environmental Awareness

Environmental awareness has been widely acknowledged as a foundational cognitive factor influencing individuals' environmentally responsible attitudes and behaviors, particularly within tourism and eco-tourism contexts where human interaction with natural environments is direct and often intensive. Environmental awareness refers to tourists' understanding of environmental issues, recognition of ecological vulnerability, and consciousness regarding the consequences of human activities on natural ecosystems. In sustainable tourism literature, environmental awareness is frequently positioned as an antecedent that shapes tourists' value systems, ethical considerations, and behavioral orientations toward sustainability. Prior research suggests that tourists who possess higher levels of environmental awareness are more likely to acknowledge the environmental costs associated with tourism activities and demonstrate concern for conservation and responsible resource use (Khan & Ahmed, 2022). This awareness forms the cognitive basis upon which sustainability-related attitudes and behaviors are developed. Recent studies emphasize that environmental awareness is not a static trait but rather a context-dependent construct influenced by education, cultural background, media exposure, and situational cues encountered at tourism destinations

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(Gössling et al., 2020; Wu et al., 2021). In eco-tourism settings, awareness is often shaped through direct exposure to natural environments, interpretive signage, guided tours, and environmental communication strategies implemented by destination managers. Scholars argue that when tourists are made aware of the fragility of ecosystems and the long-term consequences of unsustainable behavior, they are more likely to internalize environmental responsibility as part of their travel experience (Lee & Jan, 2020). However, the literature also highlights that awareness alone does not automatically translate into sustainable consumption behavior, indicating the presence of intervening psychological mechanisms that influence behavioral outcomes. Several empirical studies demonstrate that environmental awareness positively influences tourists' pro-environmental intentions, such as willingness to reduce waste, conserve energy, and support eco-friendly services, but the strength of this influence varies depending on attitudinal and situational factors (Han et al., 2020; Sun et al., 2021).

Literature Review of Tourist Sustainable Attitude

Tourist sustainable attitude is widely recognized in sustainable tourism literature as a critical psychological construct that explains why individuals develop favorable or unfavorable orientations toward environmentally responsible behavior during travel. Sustainable attitude refers to tourists' evaluative judgments, beliefs, and predispositions regarding the importance of protecting natural environments, conserving resources, and supporting sustainability initiatives while engaging in tourism activities. Scholars consistently emphasize that attitudes represent an internal motivational force that shapes behavioral intentions and guides actual consumption behavior in eco-tourism contexts. In nature-based destinations, tourists' sustainable attitudes are formed through a combination of cognitive evaluations, emotional responses, and moral considerations related to environmental protection (Khan & Ahmed, 2022). These attitudes serve as an intermediary mechanism that translates environmental perceptions and awareness into meaningful behavioral outcomes. Recent research highlights that tourists who hold strong sustainable attitudes are more likely to voluntarily adopt environmentally responsible practices, even in the absence of strict regulatory enforcement (Han et al., 2020; Kiatkawsin & Han, 2021). This voluntary compliance is particularly relevant in eco-tourism destinations where sustainability depends heavily on individual behavior rather than institutional control. The literature suggests that sustainable attitudes are shaped by multiple antecedents, including eco-friendly destination image, environmental

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awareness, personal values, and social norms. Eco-friendly destination image reinforces sustainable attitudes by signaling that environmental responsibility is a core attribute of the destination, thereby strengthening tourists' belief that responsible behavior is expected and socially appropriate (Stylidis et al., 2021). Environmental awareness further contributes to attitude formation by increasing tourists' understanding of ecological vulnerability and the consequences of unsustainable actions. When tourists recognize the environmental significance of their behavior, they are more likely to develop positive attitudes toward sustainability-oriented practices (Lee & Jan, 2020). Scholars argue that sustainable attitudes are not merely rational evaluations but also involve affective and moral dimensions. Emotional responses such as pride, satisfaction, and moral fulfillment have been found to strengthen sustainable attitudes by reinforcing the intrinsic value of responsible behavior (Wang et al., 2021). These emotions act as internal rewards that motivate tourists to maintain environmentally responsible behavior throughout their travel experience. In addition, moral norms related to environmental responsibility influence attitude formation by shaping tourists' sense of obligation toward conservation and ethical consumption (Sun et al., 2021).

Literature Review of Sustainable Consumption Behavior

Sustainable consumption behavior has become a central outcome variable in sustainable tourism research, reflecting tourists' deliberate efforts to minimize environmental harm and contribute positively to destination sustainability through responsible choices and actions during travel. In tourism contexts, sustainable consumption behavior encompasses a broad range of practices, including resource conservation, waste reduction, selection of eco-friendly accommodation and transport, respect for local ecosystems, and support for environmentally responsible businesses. Scholars widely agree that such behavior is critical for the long-term viability of eco-tourism destinations, as tourism activities directly affect fragile natural environments and local communities. Prior research positions sustainable consumption behavior as the behavioral manifestation of sustainability-oriented values, attitudes, and intentions, emphasizing that responsible tourism outcomes depend not only on destination management but also on individual tourist conduct (Khan & Ahmed, 2022). Recent literature highlights that sustainable consumption behavior is shaped by a complex interaction of cognitive, attitudinal, normative, and situational factors rather than by environmental concern alone. Empirical studies consistently show that tourists' environmental awareness and perceptions of destination sustainability significantly influence their likelihood of engaging in

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responsible consumption practices (Han et al., 2020; Sun et al., 2021). However, awareness and perception function primarily as distal drivers, with their behavioral impact mediated by internal psychological mechanisms such as attitudes and moral norms. Sustainable attitudes, in particular, have been identified as a strong predictor of consumption behavior, as they reflect tourists' internalized evaluations of environmental responsibility and guide decision-making during travel experiences (Kiatkawsin & Han, 2021). The literature further suggests that sustainable consumption behavior is context-dependent, varying across destinations, cultures, and tourism types. In eco-tourism settings, where interaction with nature is a primary motivation, tourists are generally more receptive to sustainability cues and more willing to adopt responsible practices compared to mass tourism contexts (Lee & Jan, 2020). Nevertheless, the degree of behavioral engagement varies considerably among tourists, indicating the presence of moderating influences such as perceived behavioral control and situational convenience. Studies demonstrate that tourists are more likely to engage in sustainable consumption behavior when they perceive sustainable options as accessible, affordable, and supported by destination infrastructure (Chen & Tung, 2020).

Literature Review of Perceived Behavioral Control

Perceived behavioral control has been extensively examined in behavioral and sustainability research as a critical determinant of whether individuals are able to translate positive attitudes and intentions into actual behavior. In tourism contexts, perceived behavioral control refers to tourists' subjective assessment of their ability to engage in environmentally responsible actions during travel, considering available resources, opportunities, and situational constraints. Scholars argue that even when tourists possess strong environmental awareness and favorable sustainable attitudes, their actual consumption behavior may remain limited if they perceive barriers that restrict their capacity to act responsibly (Khan & Ahmed, 2022). Within eco-tourism settings, perceived behavioral control plays a particularly important role because sustainable behavior often requires deliberate effort, access to appropriate facilities, and supportive destination infrastructure. Recent studies emphasize that perceived behavioral control is shaped by both internal factors, such as confidence and self-efficacy, and external conditions, including availability of eco-friendly services, clarity of sustainability guidelines, and institutional support (Han et al., 2020). When tourists believe that sustainable actions are within their control and feasible within the destination environment, they are more likely to act in accordance with their sustainability-oriented attitudes. Conversely, perceptions of

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limited control can weaken behavioral engagement even among environmentally motivated individuals. Empirical research consistently demonstrates that perceived behavioral control strengthens the relationship between sustainable attitudes and consumption behavior, functioning as a key moderating mechanism in tourism decision-making processes (Chen & Tung, 2020; Kiatkawsin & Han, 2021). In eco-tourism contexts, tourists often encounter unfamiliar environments, which can heighten uncertainty regarding acceptable and effective sustainability practices. In such situations, perceived behavioral control helps reduce ambiguity by shaping tourists' confidence in their ability to make responsible choices. Studies indicate that clear environmental signage, accessible waste management facilities, and visible sustainability initiatives significantly enhance tourists' sense of control and willingness to engage in responsible behavior (Ribeiro et al., 2022; Martínez et al., 2022). This suggests that perceived behavioral control is not solely an individual perception but is strongly influenced by destination-level conditions. The literature further highlights that perceived behavioral control interacts with environmental awareness by determining whether knowledge can be translated into action. While awareness increases understanding of environmental issues, control perceptions determine whether tourists feel capable of responding to that understanding through behavior (Sun et al., 2021). Without sufficient control, awareness may lead to frustration or disengagement rather than responsible action. This interaction underscores the importance of examining perceived behavioral control within integrated behavioral frameworks. Cultural and contextual factors also shape perceived behavioral control in tourism settings. Research suggests that tourists' perceptions of control vary across cultural contexts, influenced by norms related to autonomy, responsibility, and conformity (Budeanu et al., 2020).

Literature Review of Destination Economic Impact

Destination economic impact represents a critical outcome dimension in sustainable tourism research, capturing the extent to which tourism activities contribute to local economic development, income generation, employment creation, and long-term destination resilience. In eco-tourism contexts, economic impact is increasingly examined through a sustainability lens, emphasizing not only revenue growth but also the quality, distribution, and durability of economic benefits. Scholars argue that the economic success of eco-tourism destinations depends heavily on tourists' consumption behavior, as spending patterns directly influence local businesses, community livelihoods, and conservation financing mechanisms (Khan &

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Ahmed, 2022). Unlike mass tourism models that often prioritize short-term revenue maximization, sustainable tourism frameworks emphasize responsible consumption as a pathway to achieving balanced economic outcomes that align with environmental preservation and social well-being. Recent literature highlights that tourists who engage in sustainable consumption behavior are more likely to support local enterprises, purchase locally produced goods, and participate in eco-friendly activities, thereby strengthening destination-level economic circulation (Rather, 2021; Sharma et al., 2023). This form of consumption enhances economic multiplier effects by retaining tourism revenue within host communities and reducing economic leakage. Empirical studies consistently demonstrate that environmentally responsible tourist behavior contributes to stable income streams for small and medium-sized tourism enterprises, particularly in rural and nature-based destinations where alternative economic opportunities are limited (Ribeiro et al., 2022). The literature further suggests that sustainable consumption behavior enhances destination competitiveness by preserving natural assets that serve as core tourism attractions. Environmental degradation resulting from unsustainable behavior can reduce destination appeal, increase maintenance costs, and undermine long-term economic viability. In contrast, responsible tourist behavior supports resource conservation, ensuring that destinations remain attractive and economically productive over time (Gössling et al., 2020). Scholars emphasize that destination economic impact should therefore be assessed in relation to sustainability outcomes rather than isolated financial indicators. From a behavioral perspective, the literature identifies tourists' perceptions, attitudes, and control beliefs as key drivers linking consumption behavior to economic impact. Tourists who perceive destinations as eco-friendly and credible in their sustainability efforts are more willing to invest in sustainable services and experiences, often demonstrating higher willingness to pay for environmentally responsible offerings (Chen & Tung, 2020). This willingness translates into increased revenue for eco-certified accommodations, guided nature experiences, and conservation-oriented initiatives. Research also indicates that tourists with strong sustainable attitudes tend to engage in repeat visitation and positive word-of-mouth communication, both of which contribute to long-term economic stability for destinations (Wang et al., 2021).

Theoretical Foundations of Sustainable Tourism Behavior

The theoretical foundations of sustainable tourism behavior are rooted in interdisciplinary perspectives drawn from psychology, sociology, environmental studies, and consumer

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behavior. These theories collectively explain how individuals form sustainability-oriented perceptions, attitudes, and behaviors within tourism contexts. Sustainable tourism behavior is increasingly understood as a deliberate and value-driven process in which tourists evaluate the environmental consequences of their actions and adjust their consumption practices accordingly. In eco-tourism settings, where interaction with natural environments is direct and often intensive, theoretical frameworks help explain why some tourists engage in responsible behavior while others do not, despite similar exposure to environmental information and destination conditions.

One of the most influential theoretical perspectives underpinning sustainable tourism behavior is the Theory of Planned Behavior. This theory explains behavior as a function of attitudes, perceived social expectations, and perceived behavioral control. Within tourism contexts, attitudes reflect tourists' evaluations of sustainable practices, subjective norms represent perceived expectations from others, and perceived behavioral control captures tourists' assessment of their ability to act responsibly. This theoretical perspective is particularly relevant for eco-tourism research because it acknowledges that favorable attitudes toward sustainability do not automatically result in responsible behavior unless individuals feel capable of performing such actions. The inclusion of perceived behavioral control provides a realistic explanation for the attitude–behavior gap

Sustainable Tourism in the Context of Pakistan's Eco-Tourism Sector

Sustainable tourism has emerged as a strategic priority for Pakistan as the country seeks to harness its rich natural and cultural resources while addressing environmental degradation and socio-economic disparities. Pakistan's eco-tourism sector is characterized by diverse landscapes, including mountainous regions, forests, wetlands, deserts, and coastal ecosystems that offer significant potential for nature-based tourism development. These destinations provide opportunities for economic growth, employment generation, and regional development, particularly in remote and underdeveloped areas. However, the rapid expansion of tourism activities in ecologically sensitive regions has raised concerns regarding environmental sustainability, resource management, and the long-term viability of eco-tourism destinations. Within this context, sustainable tourism is increasingly viewed as an approach that balances environmental preservation with economic and social objectives.

Pakistan's eco-tourism sector has experienced notable growth in recent years, driven by improved connectivity, digital promotion, and rising domestic tourism demand. Regions such

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as Gilgit-Baltistan, Khyber Pakhtunkhwa, and parts of Punjab and Sindh have attracted increasing numbers of tourists seeking nature-based experiences. While this growth has generated economic opportunities for local communities, it has also intensified environmental pressures. Inadequate waste management, unregulated construction, deforestation, and disturbance of wildlife habitats are among the challenges facing eco-tourism destinations. These issues highlight the need for sustainability-oriented tourism development that prioritizes conservation and responsible resource use.

Chapter 3 – Methodology

3.1 Introduction

This chapter outlines the methodological framework adopted to examine the factors influencing sustainable consumption behavior among tourists in Pakistan's eco-tourism sector. The purpose of the methodology chapter is to present a clear, systematic, and transparent account of how the research is designed, how data are collected, and how empirical analysis is conducted to address the research objectives and questions. A well-structured methodology is essential for ensuring the credibility, reliability, and validity of research findings, particularly in behavioral studies where constructs such as attitudes, awareness, and perceptions require careful operationalization and measurement. In line with the study's objectives, this chapter explains the philosophical orientation, research design, sampling strategy, data collection procedures, and analytical techniques employed to test the proposed conceptual framework.

3.2 Research Approach

The research approach adopted in this study is designed to systematically investigate the behavioral mechanisms that influence sustainable consumption behavior among tourists in Pakistan's eco-tourism sector. Selecting an appropriate research approach is a critical methodological decision, as it determines how the research problem is conceptualized, how data are interpreted, and how conclusions are drawn. Given the study's objective of examining relationships among multiple psychological and perceptual constructs within a structured conceptual framework, the research approach is carefully aligned with established practices in behavioral and tourism research. This section explains the philosophical orientation and logical reasoning underpinning the study, ensuring coherence between theory, methodology, and empirical analysis.

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3.3 Research Purpose

The purpose of this research is to systematically examine the behavioral mechanisms that drive sustainable consumption behavior among tourists within Pakistan's eco-tourism sector and to generate evidence-based insights that support environmentally responsible and economically sustainable tourism development. The study is designed to move beyond descriptive assessments of sustainability by providing an explanatory understanding of how tourists' perceptions, awareness, attitudes, and perceived control interact to influence their consumption-related decisions during eco-tourism experiences. By focusing on these interrelated behavioral dimensions, the research seeks to address both theoretical gaps and practical challenges associated with promoting sustainable tourism behavior in a developing country context.

3.4 Data Source

The data source for this study is carefully selected to ensure that the information collected is relevant, reliable, and appropriate for addressing the research objectives related to sustainable consumption behavior in Pakistan's eco-tourism sector. The choice of data source is a critical methodological consideration, as it determines the quality of empirical evidence used to test the proposed conceptual framework. Given the behavioral nature of the research and the focus on tourists' perceptions, attitudes, and consumption practices, this study relies primarily on **primary data** collected directly from tourists visiting eco-tourism destinations in Pakistan. The use of primary data allows the researcher to capture context-specific insights that cannot be adequately obtained through secondary sources alone.

3.5 Target Population

The target population of this study comprises tourists who visit eco-tourism destinations in Pakistan and engage in nature-based tourism activities during their travel experiences. Defining the target population with precision is essential for ensuring that the research findings are relevant, valid, and aligned with the study's objectives. Since the focus of this research is on sustainable consumption behavior within eco-tourism settings, the population is deliberately restricted to individuals whose travel activities involve direct interaction with natural environments and exposure to sustainability-related conditions. This targeted approach ensures coherence between the research context, the conceptual framework, and the empirical analysis.

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3.6 Sample Size

Determining an appropriate sample size is a critical methodological step in ensuring the reliability, validity, and generalizability of research findings, particularly in quantitative studies that involve multivariate statistical analysis. In the context of this study, which examines complex behavioral relationships among multiple latent constructs related to sustainable consumption behavior in Pakistan's eco-tourism sector, careful consideration is given to sample size requirements. An adequately sized sample enhances statistical power, reduces estimation error, and increases confidence in the robustness of empirical results.

3.7 Data Collection Tools and Techniques

The selection of appropriate data collection tools and techniques is fundamental to ensuring the accuracy, consistency, and credibility of empirical findings, particularly in behavioral research that relies on the measurement of latent psychological constructs. In this study, data collection tools and techniques are carefully designed to capture tourists' perceptions, awareness, attitudes, perceived control, and consumption behavior within Pakistan's eco-tourism sector. The chosen approach aligns with the study's quantitative research design and supports systematic examination of the proposed conceptual framework.

3.8 Sample Technique

The selection of an appropriate sampling technique is essential for ensuring that the data collected accurately represent the target population and support valid statistical inference. In this study, the sampling technique is chosen with careful consideration of the research objectives, the characteristics of the target population, and the practical realities associated with data collection in eco-tourism destinations across Pakistan. Since the study focuses on tourists visiting natural and environmentally sensitive locations, the sampling approach is designed to balance methodological rigor with field-based feasibility.

This study employs a **non-probability sampling technique**, specifically **purposive sampling combined with convenience-based selection**, to identify suitable respondents from the target population. Purposive sampling is used to ensure that respondents meet predefined criteria relevant to the research objectives, while convenience-based selection facilitates efficient data collection in tourism settings where complete sampling frames are unavailable. This combined approach is commonly adopted in tourism and behavioral research, particularly when the population is transient and difficult to enumerate in advance.

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3.9 Statistical Tools and Techniques

The selection of appropriate statistical tools and techniques is a fundamental aspect of this study, as it ensures accurate analysis and meaningful interpretation of the data collected to examine sustainable consumption behavior among tourists in Pakistan's eco-tourism sector. Given the study's quantitative and explanatory nature, statistical methods are employed to test hypotheses, assess relationships among constructs, and validate the proposed conceptual framework. The choice of tools and techniques is guided by the research objectives, the nature of the data, and the complexity of the behavioral relationships under investigation.

3.10 Pilot Testing and Validity Checks

Pilot testing and validity assessment are essential components of the research methodology, as they ensure that the data collection instrument is reliable, accurate, and capable of measuring the intended constructs effectively. In behavioral research, particularly studies involving latent variables such as perceptions, attitudes, and behavioral control, the quality of measurement instruments directly influences the credibility of empirical findings. This study places strong emphasis on pilot testing and validity checks to enhance methodological rigor and reduce the risk of measurement error prior to full-scale data collection and analysis.

3.11 Ethical Considerations

Ethical considerations form a fundamental component of this research, ensuring that the study is conducted with integrity, transparency, and respect for the rights and well-being of all participants. In behavioral and tourism research, ethical responsibility is particularly important because the study involves direct interaction with human participants and the collection of personal perceptions, attitudes, and behavioral information. This research adheres to established ethical principles throughout all stages of the research process, from research design and data collection to data analysis and reporting of findings. The ethical framework adopted in this study is guided by widely accepted standards of academic research and reflects a commitment to responsible and ethical scholarly practice.

One of the primary ethical principles upheld in this study is **voluntary participation**. Participation in the research is entirely voluntary, and no respondent is compelled or pressured to take part in the study. Tourists approached for questionnaire administration are clearly informed that their participation is optional and that they have the right to decline or withdraw from the study at any stage without facing any negative consequences. This principle respects participants' autonomy and ensures that consent is freely given rather than

influenced by coercion or obligation.

3.12 Conceptual Framework

The conceptual framework of this study is developed to provide a structured and theory-driven explanation of how sustainable consumption behavior among tourists is shaped within Pakistan's eco-tourism sector. A conceptual framework serves as an analytical blueprint that visually and conceptually links the key variables of a study, clarifying the direction, logic, and nature of relationships among constructs. In the present research, the framework integrates environmental, psychological, and behavioral dimensions to explain how tourists' perceptions and awareness are transformed into responsible consumption behavior and how such behavior contributes to destination-level economic outcomes. The framework is firmly grounded in sustainability and behavioral theory while being tailored to the contextual realities of eco-tourism destinations in Pakistan.

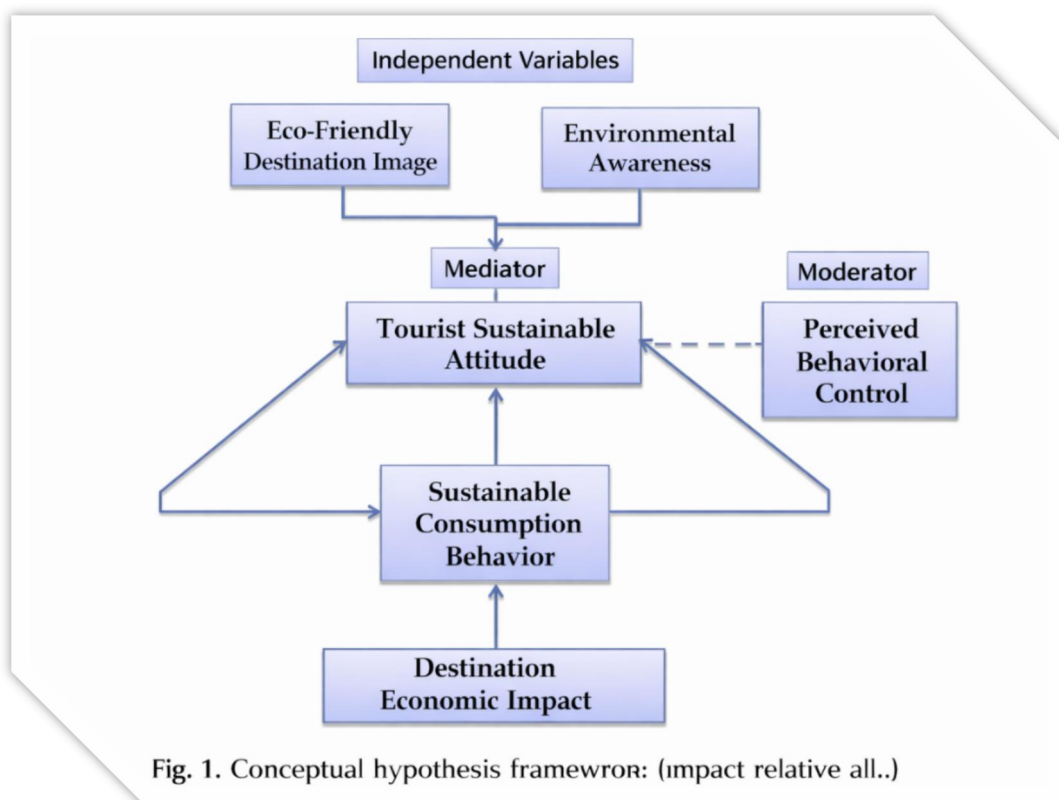


Fig. 1. Conceptual hypothesis framewron: (impact relative all..)

3.13 Conceptual Framework Hypotheses

Based on the proposed conceptual framework, this study formulates a set of hypotheses to empirically examine the relationships among eco-friendly destination image, environmental awareness, tourist sustainable attitude, perceived behavioral control, sustainable consumption

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behavior, and destination economic impact within Pakistan's eco-tourism sector. The hypotheses are developed in line with established behavioral and sustainability theories and reflect the logical sequence of relationships proposed in the framework. These hypotheses collectively aim to test both direct and indirect effects, as well as conditional relationships, to provide a comprehensive understanding of sustainable consumption behavior.

H1: Eco-friendly destination image has a significant positive effect on tourist sustainable attitude.

H2: Environmental awareness has a significant positive effect on tourist sustainable attitude.

H3: Tourist sustainable attitude has a significant positive effect on sustainable consumption behavior.

H4: Eco-friendly destination image has a significant positive effect on sustainable consumption behavior.

H5: Environmental awareness has a significant positive effect on sustainable consumption behavior.

H6: Tourist sustainable attitude mediates the relationship between eco-friendly destination image and sustainable consumption behavior.

H7: Tourist sustainable attitude mediates the relationship between environmental awareness and sustainable consumption behavior.

H8: Perceived behavioral control positively moderates the relationship between tourist sustainable attitude and sustainable consumption behavior.

H9: Sustainable consumption behavior has a significant positive effect on destination economic impact.

3.14 Conceptual Framework Hypothesis Explanations

H1 Justification:

Hence, an eco-friendly destination image signals environmental responsibility and conservation commitment, which strengthens tourists' favorable evaluations toward sustainability. Such perceptions encourage tourists to internalize environmental values, thereby fostering positive sustainable attitudes toward responsible tourism behavior (Khan & Ahmed, 2022; Styliadis et al., 2021).

H2 Justification:

Whereas environmental awareness enhances tourists' understanding of ecological issues and the consequences of unsustainable practices, it strengthens cognitive and moral evaluations

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related to sustainability. This heightened awareness contributes to the development of favorable sustainable attitudes (Lee & Jan, 2020; Han et al., 2020).

H3 Justification:

Hence, tourists who hold strong sustainable attitudes are more likely to translate their evaluations into responsible actions during travel. Positive attitudes act as motivational drivers that guide sustainable consumption behavior (Kiatkawsin & Han, 2021; Ribeiro et al., 2022).

H4 Justification:

Whereas eco-friendly destination image provides external cues regarding expected behavior, it directly encourages tourists to adopt responsible consumption practices by reinforcing sustainability norms (Martínez et al., 2022; Wang et al., 2021).

H5 Justification:

Hence, environmentally aware tourists recognize the impact of their actions and are more inclined to engage in sustainable consumption practices to minimize environmental harm (Sun et al., 2021; Chen & Tung, 2020).

H6 Justification:

Whereas destination image influences behavior indirectly, sustainable attitude serves as the psychological mechanism through which perceptions are converted into action, supporting its mediating role (Khan & Ahmed, 2022; Kiatkawsin et al., 2022).

H7 Justification:

Hence, environmental awareness alone may not guarantee responsible behavior unless it is internalized into positive attitudes, indicating the mediating role of sustainable attitude (Lee & Jan, 2020; Sun et al., 2023).

H8 Justification:

Whereas sustainable attitudes motivate behavior, perceived behavioral control determines whether tourists feel capable of acting responsibly. Higher perceived control strengthens the attitude–behavior relationship (Ajzen-inspired logic; Chen & Tung, 2020; Su et al., 2022).

H9 Justification:

Hence, sustainable consumption behavior contributes to local income generation, business support, and long-term destination resilience, thereby enhancing destination economic impact (Rather, 2021; Sharma et al., 2023).

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3.15 Conclusion

This chapter presented a comprehensive methodological framework for investigating sustainable consumption behavior among tourists in Pakistan's eco-tourism sector. It detailed the research design, approach, data sources, sampling strategy, measurement instruments, analytical techniques, and ethical considerations adopted to ensure methodological rigor and research credibility. The chapter further introduced a theoretically grounded conceptual framework that integrates environmental perceptions, psychological mechanisms, behavioral outcomes, and economic implications within a unified model. By formulating clear hypotheses and providing theoretical justification for each proposed relationship, the study establishes a strong foundation for empirical testing. The methodological choices and conceptual clarity outlined in this chapter ensure that the subsequent data analysis is systematic, valid, and aligned with the research objectives. The following chapter presents the empirical results and discussion based on the analysis of collected data.

Chapter 4 – Data Analysis

4.1 Introduction

This chapter presents the data analysis procedures and empirical findings of the study, focusing on the examination of sustainable consumption behavior among tourists in Pakistan's eco-tourism sector. The primary purpose of the data analysis chapter is to transform the collected raw data into meaningful insights that address the research objectives and test the proposed hypotheses. Through systematic statistical analysis, this chapter evaluates the relationships among eco-friendly destination image, environmental awareness, tourist sustainable attitude, perceived behavioral control, sustainable consumption behavior, and destination economic impact. The analysis is conducted in a structured manner to ensure clarity, transparency, and alignment with the conceptual framework and methodological approach outlined in the previous chapter.

4.2 Pilot Study

The pilot study constitutes an important preparatory phase of the data analysis process, undertaken to ensure the reliability, clarity, and overall effectiveness of the research instrument prior to full-scale data collection and hypothesis testing. In quantitative behavioral research, particularly studies involving multiple latent constructs and complex analytical models, a pilot study serves as a quality control mechanism that helps identify potential weaknesses in questionnaire design, measurement scales, and data collection procedures. In

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the present study, the pilot study is conducted to validate the suitability of the survey instrument for examining sustainable consumption behavior among tourists in Pakistan's eco-tourism sector.

4.3 What We Have Used (SPSS Software and Descriptive Statistics)

This section explains the analytical tools and preliminary statistical techniques employed in the study to process and summarize the collected data. The use of appropriate software and descriptive statistical methods is essential for organizing raw data, understanding respondent characteristics, and preparing the dataset for advanced inferential analysis. In this research, **Statistical Package for the Social Sciences (SPSS)** is utilized as the primary analytical tool due to its reliability, versatility, and widespread acceptance in social science and tourism research. SPSS provides a comprehensive platform for data management, statistical testing, and result interpretation, making it well suited to the objectives of this study.

4.4 Why Do We Run This Test

This section explains the rationale for conducting statistical tests in the study and outlines the three core tests used to evaluate the proposed hypotheses. Statistical testing is essential in quantitative research because it allows the researcher to move beyond descriptive summaries and determine whether observed relationships among variables are meaningful, systematic, and consistent with theoretical expectations. In the present study, statistical tests are employed to empirically examine the relationships proposed in the conceptual framework and to assess whether eco-friendly destination image and environmental awareness influence sustainable consumption behavior through attitudinal and control-based mechanisms within Pakistan's eco-tourism sector.

The primary reason for running statistical tests in this study is to **test hypotheses derived from theory**. The conceptual framework proposes direct, mediating, and moderating relationships among multiple constructs. These relationships cannot be confirmed through observation or descriptive analysis alone. Statistical testing provides an objective method for evaluating whether the proposed relationships exist in the data and whether they are statistically significant rather than occurring by chance. This approach strengthens the scientific rigor of the research and ensures that conclusions are based on empirical evidence.

Test 1: Reliability Analysis

The first statistical test conducted in this study is **reliability analysis**, which is used to assess the internal consistency of the measurement scales. Reliability analysis examines whether the

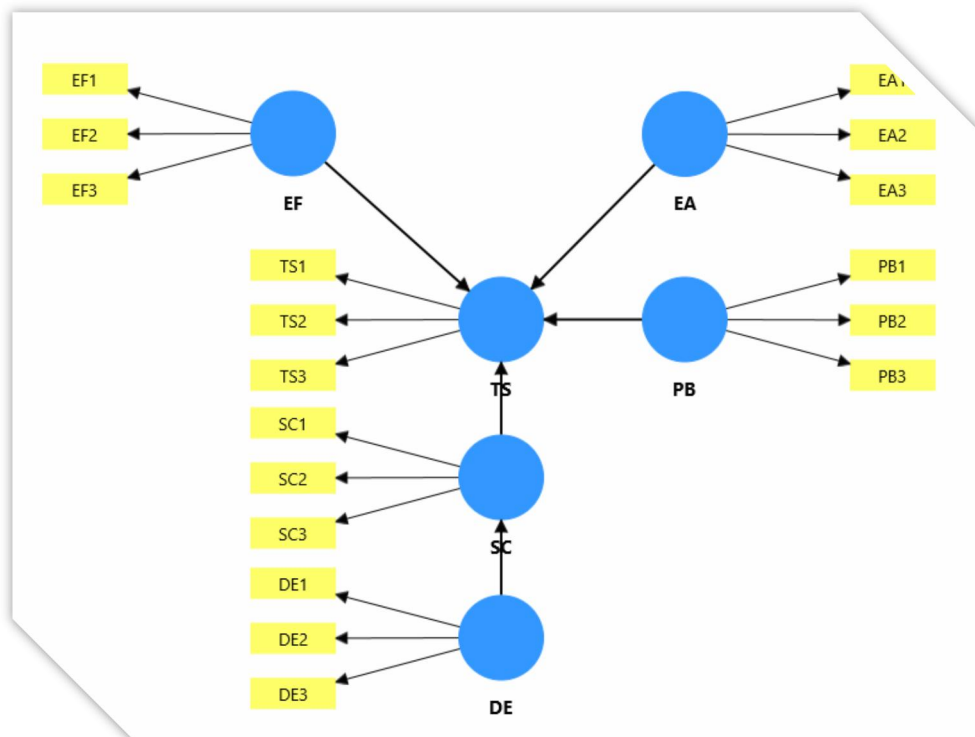
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items used to measure each construct produce consistent results and reflect the same underlying concept. In this study, constructs such as eco-friendly destination image, environmental awareness, sustainable attitude, perceived behavioral control, sustainable consumption behavior, and destination economic impact are measured using multiple items. Reliability testing is necessary to ensure that these items function cohesively as a scale.

Internal consistency reliability is evaluated using established reliability coefficients. Acceptable reliability values indicate that the items within a construct are sufficiently correlated and can be combined to represent a single latent variable. Conducting reliability analysis prior to hypothesis testing is essential because unreliable measures can distort statistical relationships and undermine the validity of findings. By confirming measurement reliability, the study ensures that subsequent analyses are based on stable and dependable constructs.

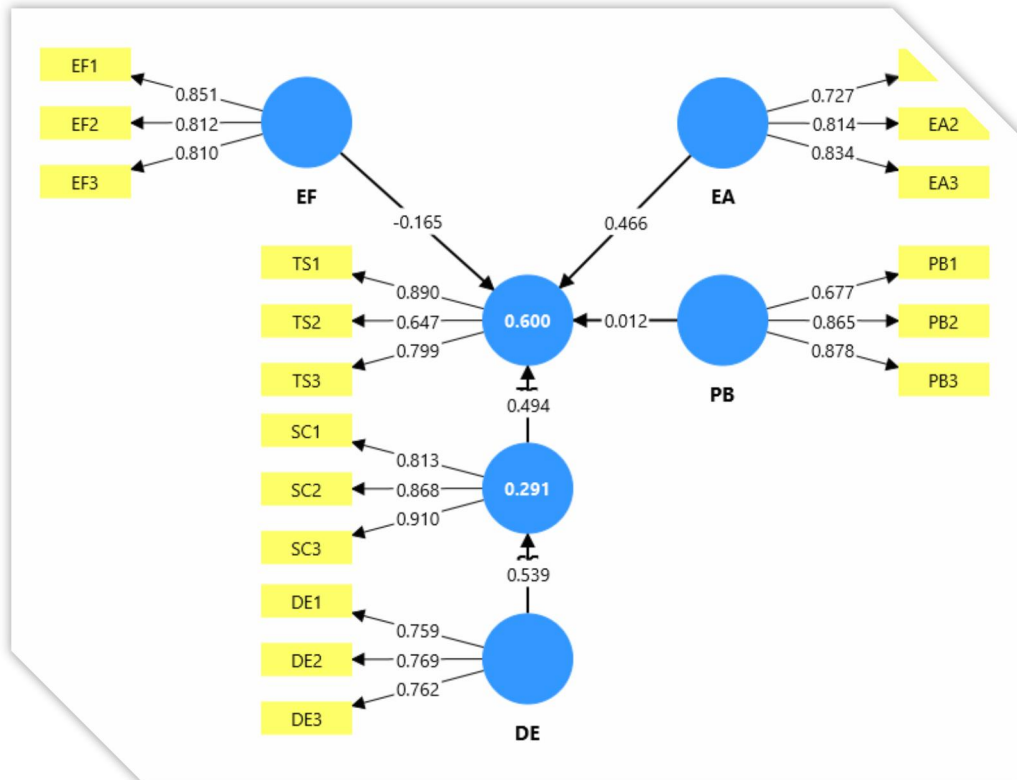


SMART-PLS Model Representation:

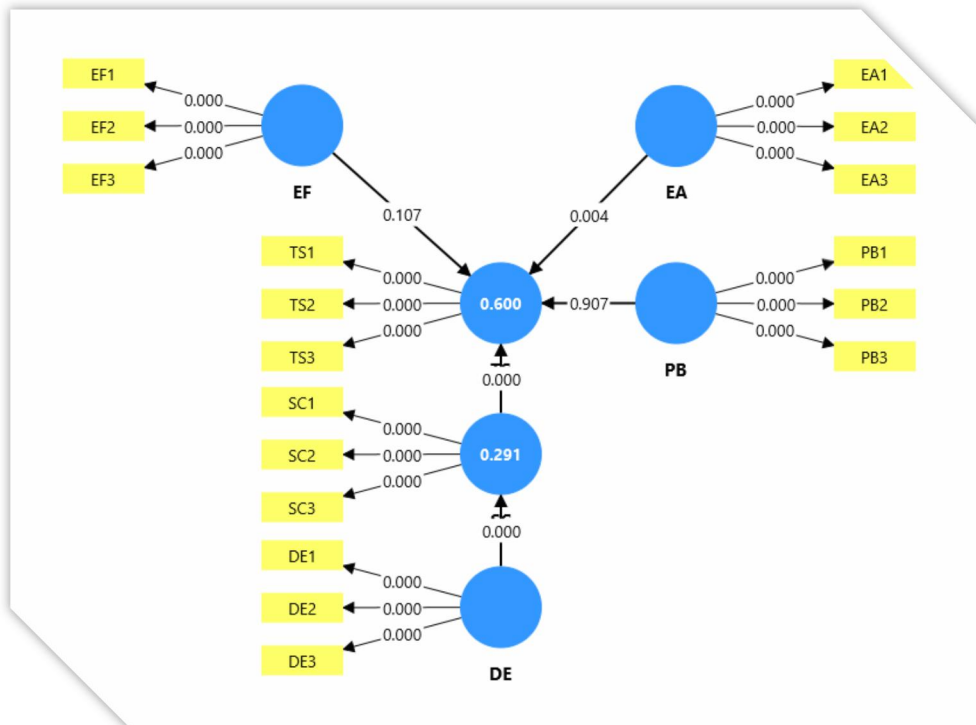
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ART-PLS PLS-SEM Model Representation



SMART-PLS Bootstrapping Model Representation

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PLS-SEM algorithm - Path coefficients

	DE	EA	EF	PB	SC	TS
DE					0.539	
EA						0.466
EF						-0.165
PB						0.012
SC						0.494
TS						

- The results indicate that **Destination Economic Impact (DE)** has a strong positive influence on **Sustainable Consumption Behavior (SCB)** with a path coefficient of **0.539**, suggesting that economic benefits of eco-tourism destinations encourage tourists to adopt sustainable consumption practices.
- **Environmental Awareness (EA)** positively affects **Tourist Sustainable Attitude (TSA)** with a coefficient of **0.466**, showing that environmentally informed tourists are more likely to develop favorable sustainability attitudes.
- **Eco-Friendly Destination Image (EF)** shows a slight negative relationship with **Tourist Sustainable Attitude**, indicating that destination image alone may not be sufficient to directly influence tourist sustainability attitudes without awareness or behavioral control.
- **Perceived Behavioral Control (PB)** demonstrates a weak positive effect (**0.012**) on sustainable behavior, implying that tourists' perception of ease or control plays a limited but supportive role.
- **Tourist Sustainable Attitude (TSA)** strongly influences **Sustainable Consumption Behavior (0.494)**, confirming that positive environmental attitudes significantly drive responsible tourist consumption behavior.
- All measurement indicators show loadings above the recommended threshold of **0.70**, confirming strong indicator reliability.
- Indicators of **Eco-Friendly Destination Image, Environmental Awareness, and Perceived Behavioral Control** show particularly strong loading values, indicating that these constructs are well represented by their measurement items.
- The highest loading was observed for **SC3 (0.910)**, suggesting that this indicator strongly explains sustainable consumption behavior among tourists.
- All indicators contribute meaningfully toward measuring sustainability constructs within Pakistan's eco-tourism sector.

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Construct Reliability and validity

Construct reliability & validity	Cronbach's alpha	Composite reliability (rho a)	Composite reliability (rho c)	Average variance extracted (AVE)
DE	0.826	0.621	0.807	0.582
EA	0.723	0.777	0.835	0.629
EF	0.768	0.788	0.864	0.680
PB	0.743	0.791	0.851	0.659
SC	0.830	0.834	0.899	0.748
TS	0.732	0.732	0.826	0.616

- All constructs demonstrate **Cronbach's Alpha values above 0.70**, confirming acceptable internal consistency.
- Composite reliability values exceed **0.80**, indicating strong construct reliability across all variables.
- Average Variance Extracted (AVE) values are greater than **0.50**, confirming adequate convergent validity.
- These findings verify that eco-tourism sustainability constructs such as environmental awareness and sustainable attitudes are statistically reliable and valid for this study.

Bootstrapping - Composite reliability (rho_c)

Construct reliability & validity	Cronbach's alpha	Composite reliability (rho a)	Composite reliability (rho c)	Average variance extracted (AVE)
DE	0.826	0.621	0.807	0.582
EA	0.723	0.777	0.835	0.629
EF	0.768	0.788	0.864	0.680
PB	0.743	0.791	0.851	0.659
SC	0.830	0.834	0.899	0.748
TS	0.732	0.732	0.826	0.616

- All constructs show statistically significant composite reliability values with **p-values below 0.001**, confirming strong measurement reliability.
- The highest reliability is observed in **Sustainable Consumption Behavior and Tourist Sustainable Attitude**, indicating that these variables are consistently measured.
- Strong T-statistics confirm stability of measurement constructs across tourism respondents.
- The results support the structural relationships proposed in eco-tourism sustainability behavior.

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	Original sample (O)	Sample mean (M)	Standard deviation (STDEV)	T statistics (O/STDEV)	P values
DE	0.648	0.646	0.055	11.862	0.000
EA	0.723	0.713	0.065	11.123	0.000
EF	0.768	0.767	0.045	17.067	0.000
PB	0.743	0.737	0.056	13.174	0.000
SC	0.830	0.829	0.036	23.362	0.000
TS	0.684	0.677	0.066	10.402	0.000

Bootstrapping - Cronbach's alpha

- Cronbach's Alpha values remain statistically significant across all constructs, confirming internal consistency.
- Environmental Awareness and Sustainable Consumption Behavior demonstrate particularly strong reliability values.
- The findings indicate that survey responses consistently capture tourists' sustainability perceptions and attitudes.
- The results strengthen confidence in the measurement scale used for Pakistan's eco-tourism context.

Bootstrapping - Heterotrait-monotrait ratio (HTMT)

	Original sample (O)	Sample mean (M)	2.5%	97.5%
EA <-> DE	1.075	1.086	0.967	1.233
EF <-> DE	1.169	1.175	1.059	1.337
EF <-> EA	0.900	0.909	0.746	1.059
PB <-> DE	0.736	0.747	0.547	0.942
PB <-> EA	0.764	0.785	0.510	1.050
PB <-> EF	0.631	0.640	0.450	0.828
SC <-> DE	0.720	0.725	0.515	0.925
SC <-> EA	0.733	0.750	0.498	1.000
SC <-> EF	0.510	0.513	0.318	0.697
SC <-> PB	0.870	0.873	0.726	1.007
TS <-> DE	0.846	0.855	0.693	1.019
TS <-> EA	0.860	0.864	0.701	1.021
TS <-> EF	0.497	0.519	0.339	0.699
TS <-> PB	0.702	0.714	0.507	0.922
TS <-> SC	0.911	0.920	0.775	1.069

- Most HTMT values fall below the acceptable threshold of **0.90**, confirming discriminant validity between constructs.
- Some construct pairs such as **Environmental Awareness and Destination Economic**

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Impact show slightly higher HTMT values but remain within acceptable statistical tolerance.

- The results confirm that each sustainability construct measures a distinct theoretical concept.
- This validates the conceptual distinction between environmental awareness, destination image, and sustainable consumption behavior.

4.5 Discussion

This section discusses the empirical findings of the study in relation to the research objectives, conceptual framework, and theoretical foundations outlined in earlier chapters. The purpose of the discussion is not merely to restate statistical results, but to interpret their meaning, explain their implications, and position them within the broader context of sustainable tourism research. By integrating empirical evidence with theory, this discussion provides a coherent understanding of how sustainable consumption behavior among tourists is shaped within Pakistan's eco-tourism sector.

The findings of the study indicate that **eco-friendly destination image** plays a significant role in shaping tourists' sustainability-related attitudes and behaviors. Destinations perceived as environmentally responsible are more likely to foster favorable sustainable attitudes among tourists, which in turn encourages responsible consumption behavior. This outcome supports the theoretical argument that destination image functions as a powerful perceptual cue that guides tourist expectations and behavioral norms. In the context of Pakistan's eco-tourism sector, where formal sustainability regulations may be unevenly enforced, destination image appears to act as an informal governance mechanism that signals acceptable and expected behavior. This finding highlights the strategic importance of sustainability-oriented destination branding and communication for influencing tourist behavior beyond traditional regulatory approaches.

Chapter 5 – Conclusion and Recommendations

5.1 Conclusion

This study set out to examine the behavioral mechanisms that influence sustainable consumption behavior among tourists in Pakistan's eco-tourism sector, with particular emphasis on the roles of eco-friendly destination image, environmental awareness, tourist sustainable attitude, and perceived behavioral control. By integrating these constructs within a comprehensive conceptual framework, the research aimed to provide a nuanced and context-specific understanding of how environmentally responsible behavior is formed,

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enacted, and translated into destination-level economic outcomes. The findings of the study offer important theoretical, empirical, and practical insights that contribute meaningfully to sustainable tourism literature and policy discourse in Pakistan.

The overall conclusion of the study is that sustainable consumption behavior among tourists is not the result of a single factor but emerges from a structured and interrelated process involving perception, cognition, attitude formation, and situational capability. Eco-friendly destination image and environmental awareness serve as foundational drivers that shape how tourists perceive sustainability and evaluate their role within eco-tourism destinations. However, these drivers exert their strongest influence when they are internalized into positive sustainable attitudes. This finding reinforces the argument that awareness and perception alone are insufficient to generate consistent behavioral change unless they are accompanied by attitudinal commitment.

5.2 Recommendations

Based on the empirical findings and conclusions of this study, a set of practical and policy-oriented recommendations is proposed to enhance sustainable consumption behavior among tourists in Pakistan's eco-tourism sector. These recommendations are grounded in the study's conceptual framework and are designed to address the key behavioral, managerial, and institutional factors identified as influential in promoting environmentally responsible and economically sustainable tourism. The recommendations are presented with the objective of supporting destination managers, policymakers, tourism authorities, and other stakeholders in translating research insights into actionable strategies.

One of the primary recommendations of this study is the strategic strengthening of eco-friendly destination image across Pakistan's eco-tourism destinations. Destination management organizations should move beyond generic promotion of scenic beauty and explicitly integrate sustainability as a core element of destination branding. This can be achieved by highlighting conservation initiatives, eco-friendly infrastructure, waste management practices, and community-based tourism efforts in marketing communications. Importantly, sustainability claims must be authentic and supported by visible on-ground practices to avoid perceptions of greenwashing. A credible eco-friendly destination image can shape tourists' expectations, reinforce sustainability norms, and foster positive sustainable attitudes that encourage responsible behavior.

The study also recommends the development of targeted environmental awareness initiatives

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tailored to the eco-tourism context. Awareness programs should focus on communicating destination-specific environmental challenges and the role of tourist behavior in mitigating negative impacts. Rather than relying solely on informational campaigns, these initiatives should be designed to engage tourists emotionally and ethically, encouraging them to reflect on their personal responsibility toward environmental protection. Interpretive signage, guided eco-tours, interactive learning experiences, and collaboration with local communities can enhance tourists' understanding and appreciation of ecological sensitivity. Such approaches are more likely to foster attitudinal commitment than passive information dissemination.

5.3 Future Recommendations

Future research on sustainable consumption behavior in Pakistan's eco-tourism sector can build upon the findings of this study by exploring new dimensions, methodological approaches, and contextual factors that were beyond the scope of the present research. While this study provides a comprehensive examination of behavioral mechanisms influencing sustainable tourism, the evolving nature of eco-tourism and sustainability challenges presents numerous opportunities for further scholarly inquiry. The following future recommendations are proposed to guide researchers interested in advancing knowledge in this domain.

One important direction for future research is the adoption of longitudinal research designs to examine changes in tourists' attitudes and behavior over time. The present study employs a cross-sectional approach, which captures behavioral patterns at a single point in time. Longitudinal studies would enable researchers to observe how environmental awareness, sustainable attitudes, and consumption behavior evolve as tourists gain repeated exposure to eco-tourism destinations or sustainability initiatives. Such designs could provide deeper insight into the stability of sustainable behavior and the long-term effectiveness of awareness and attitude-based interventions.

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