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AIM

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CONTENTS

What Draws Tourists: Attractions Or Personal Motivations? Analysis Of Evolving Tourist Motivations Through Cross-Continental Case Studies

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Abstract

Tourism is a lively and complex field shaped by numerous push and pull factors determining how and why tourists visit attractions. Understanding this dynamic relationship is necessary for stakeholders seeking to attract and retain tourists in a competitive landscape, offering profound insights into the evolving nature of modern tourism. Thus, this qualitative case study investigates the attributes that enhance or diminish tourist magnetism, examining the contrast between pull factors such as distinctive cultural experiences, natural landscapes, and iconic landmarks and push factors like economic conditions, social influences, and personal motivations across four countries on different continents: South Africa, Hong Kong, Australia, and England. The analysis examines whether the captivating nature of attractions or the fulfillment of personal desires significantly influences travel choices. Each destination features distinct attractions ranging from stunning natural landscapes to luxurious built environments that appeal to diverse tourist motivations. The study reveals that while attractions significantly satisfy tourists' needs, their effectiveness varies per the unique motivations and preferences of various tourist groups. Although most leisure tourists are drawn to destinations due to the presence of attractions, business tourists often seek the fulfillment of specific personal needs. Therefore, the evolving landscape of tourism demands a shift from traditional push-pull motivation theory to a more inclusive marketing approach that addresses diverse motivations for experience, well-being, and authenticity. Then, the study proposed a new Travel Need-Career-Attraction Nexus framework, highlighting the necessity of understanding and adapting to changing tourist motivations, emphasising that attractions serve as means to broader experiences rather than ends.

Keywords: Attraction, Push-Pull Motivation Theory, Travel Career Ladder/Pattern, Travel Personality Model, Strangeness Versus Familiarity Continuum

Introduction

Understanding how attractions and tourist motivations influence each other is critical to creating effective marketing strategies and improving the overall tourist experience. At the heart of this inquiry, one crucial question shall always be asked and addressed: *are tourists inherently drawn to the attractions themselves, or do their choices reflect deeper personal motivations?* This necessity arises from the recognition that as the tourism landscape evolves, so too do the expectations and motivations of tourists, making it imperative for destinations to adapt accordingly. While iconic landmarks may possess a magnetic appeal, the underlying drivers of tourist behaviour often reveal a tapestry of needs and aspirations that extend beyond the mere presence of an attraction (Li *et al.,* 2015). This exploration gains further significance through Leiper's (1990) tourist attraction system model, which has sparked vibrant discussions among scholars and industry professionals regarding the complex interplay between attractions, tourists, and their environments. Leiper's (1990) model emphasises that attractions are not isolated entities; instead, they exist within a broader system that includes tourists' motivations, the socio-cultural context, and the physical environment. This interconnectedness prompts us to consider how evolving tourist motivations shape the tourism landscape and influence the effectiveness of marketing strategies (Dunn-Ross & Iso-Ahola, 1991). McKercher (2017) further emphasises that destination strategies must adapt as tourists' motivations shift to engage and attract visitors effectively. This adaptability is crucial in a globalised tourism market where cultural

exchanges and technological advancements continuously reshape tourist expectations. However, there remains a gap in a comprehensive analysis synthesising these dynamics across different global contexts, particularly in understanding how various attractions resonate with diverse motivations (Lew, 1987).

Motivations underlying travel are multifaceted and shaped by various factors, such as social, psychological, and cultural influences. Crompton (1979) identified several motivational dimensions, including push and pull factors, which motivate individuals to travel and draw them to destinations. This duality is essential for unpacking the complex dynamics when tourists choose particular attractions. For example, a tourist may be pushed to travel due to a desire for adventure (a push factor) but may be pulled to a specific destination because of its renowned natural beauty (a pull factor). This interplay emphasises the necessity for a detailed understanding of tourist motivations that goes beyond simplistic classifications. To contextualise this study, we examine four diverse destinations: South Africa, Hong Kong, Australia, and England. These locations were selected for their representation of built and natural attractions and their ability to cater to varied tourist motivations, as evidenced by recent short- and long-haul market reports (UN Tourism, 2024). Each destination offers a unique blend of experiences that reflect its cultural heritage and natural beauty, providing a rich ground for analysis. For instance, South Africa's blend of wildlife and cultural heritage, Hong Kong's urban vibrancy juxtaposed with natural landscapes, Australia's diverse ecosystems, and England's historical landmarks all present distinct attractions that cater to different tourist motivations. A qualitative case study that explores the interplay between tourist attractions and motivations was employed. It draws upon various theoretical concepts and models supported by existing research in the field. Market reports from the countries' official websites provide credible insights into their built and non-built attractions, marketing strategies, visitor demographics, and overall recipient profiles (South African Department of Tourism, 2024; Hong Kong Tourism Board, 2024; Tourism Australia, 2024; VisitBritain, 2024). Additionally, supplementary data from organisations such as UN Tourism and various attraction site offices are integrated to enhance the conceptual framework and arguments related to attractions and travel motives. Thus, understanding the interplay between attractions and tourist motivations is essential for shaping effective marketing strategies that enhance the wider discourse about tourism and its triple-bottom-line effects. By comprehensively examining these themes, this study aims to bridge the gaps in the current literature and offer a theoretical and conceptual framework for tourism stakeholders, enabling them to better align their offerings with the evolving needs of tourists.

Literature Review

Attractions and Activities

Attractions serve as a focal point for visitors, acting as the "lifeblood" of destinations because they significantly influence the overall visitor experience (Pearce, 1991; Swarbrooke, 2002). Jafari (1974) conceptualised attractions as products, a notion supported by the UNWTO (2004), which defines destinations as physical locations comprising various products. According to the UNWTO (2008), attractions encompass anything visitors use. Mckercher (2016) expanded on this definition, noting that family members or business entities can qualify as attractions depending on the purpose of the visit, such as visiting friends and relatives or conducting business. He argued that non-locational activities like shopping, sightseeing, and dining should also be considered attractions. Ultimately, attractions play a crucial role in enhancing visitors' enjoyment and overall experience at a destination. Attractions can be categorised into built and natural forms, each appealing to distinct tourist market segments (Pearce, 1991). Built attractions, such as museums, theme parks, and historical sites, often fulfil educational and entertainment needs. In contrast, natural

attractions like national parks and beaches typically cater to desires for relaxation and adventure (Frochot & Morrison, 2000). This distinction is vital for understanding how different types of attractions influence tourists' decision-making processes. For example, built attractions may draw those seeking cultural enrichment, while natural attractions appeal to those yearning for escapism and a connection with nature. Recognising these differences enables more targeted marketing strategies and the development of tourism products. However, some argue the presence or absence of attractions does not always significantly influence tourists' decision-making, as many may passively engage with available resources (Timothy, 1997; McKercher & Wong, 2021). Scholars suggest that the varying needs and desires of tourists at these attractions significantly influence their choices. Even when destinations offer various infrastructures, such as transportation and accommodations, not all tourists express interest in utilising them (Mill & Morrison, 1985; Leiper, 1990; Mckercher, 2016). Tourists may share broad needs and wants, yet the activities that satisfy these needs can differ widely, indicating that a broader range of activities can meet diverse tourist preferences (Leiper, 1990; Tangeland, 2011). Thus, if tourists seek to fulfil their general needs, the specific attributes of destinations, including built attractions, may become secondary, particularly in multi-product urban destinations with abundant options (Crompton, 1979; McKercher & Wong, 2021; Framke, 2002).

Goeldner (2000) further emphasises that specific and built attractions should be bundled with other tourism resources such as sightseeing, shopping, entertainment, culture, and recreation to maximise competitiveness. When needs are less specific, any destination or attraction can potentially satisfy tourists (Botti *et al.*, 2008). However, if travel is driven by a specific need, as seen in the context of leisure, tourists are likely to be drawn to particular attractions (Hartel *et al.*, 2006). This understanding implies that specifically built attractions can attract tourists motivated by specific needs, while their importance diminishes when needs are broad and interchangeable (Mckercher, 2017). Thus, built attractions can cater to specific, non-substitutable needs while serving merely as a means to an end for those motivated by broader, substitutable attractions. Curiosity and the desire for new experiences often motivate individuals to choose specific attractions (Podoshen, 2013; Sharpley & Stone, 2009).

Attractions within a destination act as vehicles for fulfilling tourists' needs and wants. Lundberg (1976) noted that what travellers label as motivations may merely reflect deeper, unarticulated needs. These intrinsic desires can sometimes remain unrecognised, with attractions providing a medium for satisfying them. In some cases, especially among youth travellers, a quest for risk and adventure may drive decisions, as young adults often seek experimentation and exploration (Gibson & Yiannakis, 2002). The millennial generation, in particular, is inclined to pursue memorable and authentic experiences, seeking to immerse themselves in local cultures and often prioritising safety, health, and well-being (Veiga *et al.*, 2017). In the contemporary context, experience transcends mere service delivery; it focuses on creating memorable and unique events where the buyer is regarded as a guest and the seller as a provider (Pine & Gilmore, 1998). As a result, experiential tourism continues to thrive, reflecting this shift towards valuing distinct and meaningful interactions.

Tourist Motivation and Activities

Tourist motivation is crucial in understanding travellers' needs, desires, and satisfaction (Chang *et al.*, 2014). It drives tourists' behaviours, influencing their decisions to visit specific destinations or attractions (Suhartanto *et al.*, 2018). Moutinho (2000) characterises motivation as a condition that compels individuals toward activities likely to yield personal satisfaction. Tangeland (2011) posits that motivations can range from specific to general; the more generalised the need, the wider the array of activities available to fulfil it. Leiper (1990)

supports this notion, noting that while different individuals may share a common broad need for relaxation, they often pursue this need through various activities, suggesting that each person harbours more specific sub-needs. In exploring these activities, researchers investigate the fundamental reasons that prompt tourists to select particular attractions. Tourists typically possess multiple motivations for travel, even within a single trip (Bowen & Clarke, 2009). Meng & Uysal (2008) emphasise that a deeper understanding of travel motivations can enhance market segmentation, enabling tourism marketers to allocate limited resources more effectively. Consequently, prominent figures in the field and related disciplines have developed numerous theories and models to address the complex nature of tourism motivation. These frameworks not only help dissect the layers of tourist motivations but also provide valuable insights into how various factors, such as cultural influences, personal experiences, and socio-economic conditions, influence individuals' travel decisions. By identifying and categorising these motivations, tourism professionals can tailor their offerings to meet travellers' diverse expectations, ultimately improving satisfaction and fostering long-term engagement with destinations.

Push-Pull Motivation Theory

After Tolman's (1959) conceptualisation of push-pull motivation, Dann (1977) brought the idea of push-pull tourist motivation into tourism research. Since then, the theory has emerged as one of the most widely used frameworks for studying tourist behaviour (Wong *et al.,* 2017; Michael *et al.,* 2017). Empirical research on tourist motivation has predominantly employed the push-pull motivation theory to examine the demand and supply sides within various tourism contexts (Kassean & Gassita, 2013). The push factors in this theory are associated with the intrinsic motivations of tourists who choose to visit specific destinations. These factors encompass a range of desires, including the need for rest, health, relaxation, escape, prestige, social interaction, and discovery (Prebesen *et al.,* 2013; Yoon & Uysal, 2005). Dann (1981) elaborated on this by introducing concepts such as anomie, which represents an interest in escaping the monotony of everyday life, and ego-enhancement, which denotes the need for acknowledgement related to travel experiences. Iso-Ahola (1982) proposed two primary motivators: escaping, which refers to the traveller's interest in leaving their usual residence and seeking, which pertains to pursuing intrinsic rewards through travel in new settings. His escape or pursuit theory introduces a four-quadrant framework encompassing individual benefits and social interactions. These motivations for escape and seeking are closely linked to the push-pull factors defined by previous scholars (Dann,1977; Crompton, 1979). Nevertheless, there is a degree of scepticism regarding the universal applicability of this approach across diverse contexts and its ability to fully encapsulate the complexities of tourist motivation (Jamal & Lee, 2003; Dann, 1981; Crompton & McKay, 1997). Critics argue that tourists do not always act per conventional assumptions (Pearce, 1991) and that their desires may extend beyond mere need satisfaction, which the push-pull theory is built upon (MacCannell, 1973; Cohen, 1972). Furthermore, Mckercher (2016) noted that the value of each attraction is contingent upon the specific needs of the tourists, highlighting the central role of tourists in evaluating whether their motivations will be met when selecting attractions, destinations, and other tourism services. Conversely, pull motivation is viewed as external influences connected to the appeal of attractions, destinations, or products that can affect tourists' visiting or purchasing behaviours (Michael *et al.,* 2017). These factors encompass tangible and intangible elements, including safety, affordability, cultural activities, entertainment options, uniqueness, staff friendliness, and a perceived contrast to their home environment. Once tourists have decided on a particular product or destination, pull factors can effectively satisfy their push motivations. Tourists often consider multiple pull factors if they align with their underlying push motivations. Moreover, when attractions or destinations are managed effectively, they can create an environment that fosters push-pull motivation, enhancing the overall appeal for potential tourists (Dean & Suhartanto, 2019; Yoon & Uysal,

2005; Suni & Pesonen, 2019).

Travel Personality Model and Travel Career Ladder

The travel personality model, introduced by Plog (1974), is grounded in the psychological traits of individuals. It posits that people are placed along a range of travel personalities, ranging from "allocentric" to "psychocentric." This spectrum includes categories such as "near allocentric," "mid-centric," and "near psychocentric." The extremes, allocentric and psychocentric, are relatively uncommon, with the majority of individuals situated somewhere in between these two poles. This model highlights the diversity of travellers' motivations and preferences, reflecting a rich tapestry of personality traits influencing travel choices.

The travel career ladder has been introduced based on the motivational theories of Maslow (1964) and Pearce (1991). Pearce (1991) categorised tourist motivations into five ascending levels: relaxation, stimulation, relationships, self-esteem, and ultimately, self-actualisation at the peak. This framework acknowledges that varying motivations emerge from different travel experiences shaped by an individual's life journey. As travellers embark on their journeys, they often start with simpler goals, such as seeking relaxation, and progressively aspire to higher objectives as their experiences deepen, culminating in the quest for self-actualisation. In response to critiques regarding the original "ladder" metaphor, Ryan (1998) made slight modifications to introduce the travel career pattern, which focuses on the patterns of motivation rather than a strict hierarchy. This revised model highlights the dynamic nature of travel motivations, emphasising that they evolve more nuanced than a linear progression might suggest (Pearce & Lee, 2005).

Strangeness Versus Familiarity

Cohen (1972) approached tourism sociologically, situating the model within the social context. He contended that tourism is a social event, emphasising the need to analyse tourists with business entities, such as tour operators, and the destinations they visit. This analysis introduces the concept of strangeness and familiarity, which he developed by deconstructing Boorstin's (1964) all-encompassing portrayal of "tourists" into more defined and empirically distinguishable categories: "organised" and "individual" mass tourists, "explorer," and "drifter," as identified by Chen, Mak, and McKercher. Cohen (1972) argued that tourists are driven by an interest in experiencing the strangeness and familiarity of their destinations. This interplay results in a spectrum that captures the different levels of tourists' unfamiliarity with the attractions they visit, alongside their familiarity with the surrounding environment. Some tourists may feel entirely out of their depth in a new locale, while others may find comfort in familiar cultural elements. This continuum allows for a nuanced classification of tourists, highlighting the diverse nature of their experiences and the various motivations that drive them to explore. Understanding these dynamics will enable us to recognise how multiple factors influence a tourist's experience. It highlights that tourism is not a universal experience; it varies significantly from person to person. Some tourists may seek adventure and novelty, while others might look for comfort in familiar surroundings.

Case Study Experiences

South Africa's Attractions, Activities, and Market Report

South Africa is renowned for its diverse and captivating attractions, significantly contributing to its tourism appeal. The country offers a blend of natural and built environments, including famous sites like Kruger National Park, Table Mountain, Cape Winelands, and the vibrant cities of Cape Town and Johannesburg. Each site caters to tourist motivations, from

adventure and exploration to relaxation and cultural enrichment (South African Department of Tourism, 2024). Table Mountain, celebrated for its stunning views and unique biodiversity, attracts outdoor lovers and thrill-seekers eager to explore its picturesque trails. This situation aligns with the travel career ladder, where visitors move from general leisure interests to more specific natural pursuits (Cohen, 1972). Kruger National Park is among the largest game reserves in Africa and provides opportunities for wildlife safaris, fulfilling the desire for adventure and discovery, a key aspect of the travel personality model (Pearce, 1991). Additionally, the Cape Winelands offer cultural and gastronomic experiences, drawing visitors interested in wine tasting and culinary exploration (South African Department of Tourism, 2024). Cultural attractions, such as the Apartheid Museum and Robben Island, provide profound insights into the nation's history and heritage, appealing to travellers motivated by education and cultural understanding (South African Department of Tourism, 2024). This position reflects the hierarchy of travel motivation, where tourists seek deeper engagement with cultural narratives as their basic needs are met (Maslow, 1943).

Recent reports indicate that South Africa continues to attract diverse international tourists, with significant contributions from markets such as the UK, the US, and Germany. These long-haul travellers often seek unique experiences that combine adventure, culture, and natural beauty, typically averaging a length of stay of 10 to 14 nights (South African Department of Tourism, 2024). This trend illustrates the applicability of the distance decay theory, as proximity influences the volume and behaviour of visitors (Bull, 1991). Tourists from neighbouring countries, including Namibia and Botswana, often make shorter trips focused on leisure and adventure activities, such as wildlife viewing and outdoor sports. In contrast, long-haul tourists from North America and Europe are motivated by combining vacationing and cultural experiences, indicating a deeper engagement with South Africa's rich heritage (Ho & McKercher, 2014). The South African Department of Tourism utilises a variety of marketing strategies tailored to these diverse segments. These include digital marketing campaigns, travel agency partnerships, and international tourism fair participation (South African Department of Tourism, 2024). Such strategies aim to highlight the unique attractions of South Africa, appealing to tourists' motivations for adventure, cultural enrichment, and relaxation (Wong *et al.*, 2016). Additionally, India has emerged as a growing market for South African tourism, with Indian travellers increasingly drawn to the country's natural beauty and cultural experiences. This trend aligns with the travel personality model, suggesting that as travellers gain experience, their motivations evolve, prompting them to seek more enriching and diverse travel experiences (Pearce, 1991). Overall, South Africa's attractions and marketing strategies effectively cater to tourist motivations, aligning with the hierarchy of travel motivation interpretations. By offering a mix of adventure, culture, and relaxation, the country enhances the overall visitor experience, encouraging repeat visits and deeper engagement with its diverse offerings.

Australia's Attractions, Activities, and Market Report

To meet the varied demands of tourists, Australia has developed a comprehensive array of tourism products encompassing natural and built attractions, successfully drawing millions of visitors worldwide. Among these, the Sydney Opera House is a hallmark of twentieth-century engineering. It symbolises Australia and the country's most frequented site, serving as the busiest performing arts centre, welcoming over eight million visitors annually (Patricia & Susan, 2005). Tourism Australia (2024) states that, although the Opera House is a built attraction, it offers visitors opportunities to participate in various performances, enriching their cultural experience. Moreover, it can be seamlessly integrated with other attractions, creating a holistic visit that maximises visitor satisfaction across a spectrum of needs. In addition to built attractions, Australia boasts the Great Barrier Reef, among the largest coral reef ecosystems globally, known for its globally significant biodiversity (Gaładyk &

Podhorodecka, 2021) and diverse underwater habitats, which contribute to its universally recognised scenic beauty (Hughes *et al.*, 2003). Tourists are drawn to the reef for experiences such as scuba diving, snorkelling, and exploring through glass-bottomed boats and seaplanes. Furthermore, Australia offers a variety of other natural and cultural attractions, including Bondi Beach, Uluru (formerly Ayers Rock), and a range of wine and culinary experiences.

With its attractions and a focus on contemporary experiential marketing, Australian tourism has witnessed significant growth in international arrivals. By 2024, the country welcomed 20.2 million international visitors, contributing AUD 47.8 billion, with AUD 26.4 billion coming from leisure spending and AUD 4.4 billion from business visitors. This data highlights the sector's economic impact on the country, demonstrating its importance as a key sector for revenue generation (Tourism Australia, 2024). Unlike many other nations, Australia's inbound tourism primarily consists of long-haul travellers. However, distance decay theory posits that tourism demand decreases as the distance travelled increases or when time and monetary costs rise (Bull, 1991). According to the same report, Australia attracts the most tourists from China, New Zealand, the US, the UK, Japan, and Singapore, with long-haul and short-haul visitors primarily motivated by the country's natural beauty (Tourism Australia, 2024). In a contemporary context, natural attractions are recognised for their positive effects on well-being, including restorative benefits, increased agreeableness, stress reduction, empathy, and pro-social behaviour (White *et al.*, 2013). Thus, Australia's tourism marketing emphasises experiences that promote cognitive enrichment, exploration, and overall well-being, particularly through visits to its natural attractions. For instance, the Tourism Australia Report (2024) indicates that 71% of tourists visit Australia for its natural wonders, with a firm intention for repeat visits. This result suggests that many of these visitors are experienced travellers, as explained in the travel career pattern model, and are motivated by goals of self-development and education. At the same time, many tourists continue to seek out iconic cultural resources, such as the Sydney Opera House and urban botanical gardens. This dual attraction model effectively draws both short- and long-haul tourists. Australia's diverse tourism resources are well-suited to accommodate tourists with general and broader needs, as reflected in their marketing strategies and promotional efforts. Understanding these dynamics allows Australia to tailor its offerings to satisfy various motivations, aligning with the hierarchy of travel motivation interpretations and the travel personality model, thereby enhancing the overall visitor experience.

Hong Kong's Attractions, Activities, and Market Report

Hong Kong is recognised globally as a vibrant international city renowned for luxury shopping. However, it also boasts a unique cultural blend and dynamic lifestyle, featuring forested mountains, traditional fishing villages, soft sandy beaches, and islands with breathtaking skylines (McKercher *et al.*, 2004). The Hong Kong Tourism Board (2024), has further enriched the visitor experience by enhancing its year-round program of major events, adding vibrancy and colour to the city, thereby elevating the overall travel experience for tourists. Key attractions and activities in Hong Kong include Victoria Peak, a prime spot for sightseeing, cable car rides, and photography; Hong Kong Disneyland, where visitors can enjoy amusement rides, shows, dining, shopping, and sightseeing; Victoria Harbour, famous for its Symphony of Lights, which offers excellent photo opportunities and shopping; Old Town Central, known for its art installations and picturesque views; Man Mo Temple, a site for meditation and sightseeing; and Ocean Park, which combines dining, rides, shows, and sightseeing (Hong Kong Tourism Board, 2024).

The Hong Kong Tourism Board provides visitor profile reports detailing the various tourist source markets. Unlike Australia's predominantly long-haul tourism, the distance decay theory is particularly relevant in Hong Kong, suggesting that the distance tourists travel

significantly influences visitor volume, demographics, behaviour, and activities (Ho & Mckercher, 2014; Hong Kong Tourism Board, 2024). According to this theory, China and Taiwan emerged as the primary source markets for Hong Kong. Chinese tourists are primarily motivated by vacations, visits to friends and relatives, conventions, studies, and familiarisation tours. Taiwanese visitors are similarly motivated, with vacation travel predominant, though business tourism also features prominently, distinguishing them from the predominantly short-haul Chinese market (Hong Kong Tourism Board, 2024; Ho & McKercher, 2014). Most tourists visiting Hong Kong fall within the familiarity aspect of Cohen's (1972) Strangeness and Familiarity Continuum, seeking experiences that resonate with their cultural backgrounds. Hong Kong employs conventional tourism marketing strategies, such as digital consumer promotions and public relations campaigns, which contrast with the strategies used in Australia. Long-haul US and UK tourists are primarily driven by vacation, business, and visiting friends and relatives motivations, respectively (Hong Kong Tourism Board, 2024). The Hong Kong Tourism Board implements various marketing initiatives to attract these visitors, including destination alliance workshops, educational seminars, conventions, and direct consumer advertising (Wong *et al.*, 2016; Hong Kong Tourism Board, 2024). Additionally, India has emerged as a growing market, with Indian tourists motivated primarily by vacations, followed by business travel. This dynamic landscape of attractions and tourist motivations in Hong Kong can be analysed through various frameworks, such as the travel personality model and the travel career ladder. These models illustrate how individual preferences and experiences evolve, influencing tourists' choices and satisfaction. The hierarchy of travel motivation emphasises that travellers fulfil basic needs and seek higher-level experiences, which Hong Kong effectively provides through its blend of cultural, natural, and entertainment attractions.

England's Attractions, Activities, and Market Report

The VisitBritain report (2024) underscores tourism's vital role in England's economy and the importance of understanding tourist motivations. Attractions experienced an 11% increase in visitors from 2022 to 2023, although this figure remains 28% lower than in 2019. Art galleries and museums led the gains with a 20% rise, while religious sites recorded a 19% rise. This growth was largely fueled by an 80% surge in international visitors and increased school trips. The Museum emerged as the most popular attraction, drawing 5.8 million visitors (a 42% increase from 2022), while the Tower of London led paid attractions with 2.8 million visitors (up 38% from 2021). England's attractions encompass diverse built environments, including renowned buildings, historic castles, museums, art galleries, gardens, parks, theatres, and shopping venues. Approximately half of the inbound tourists visit for leisure, with the top three source markets being the United States, France, and Germany, particularly among travellers aged 25 to 34 (VisitBritain, 2024). This demographic insight aligns with the Travel Career Model, suggesting that many visitors to London are relatively inexperienced travellers drawn to these built attractions for relaxation and escapism. In contrast, rural attractions appeal to more experienced and familiar travellers, often motivated by the desire to visiting friends and relatives.

As noted earlier, most inbound tourists to England hail from the United States, France, and Germany. However, Australia leads the long-haul market, followed by China, with average lengths of stay of 9.6 and 8.3 nights, respectively (VisitBritain, 2024). Australians often have a strong emotional connection to England, viewing it through a lens of nostalgia tied to familial roots. This familiarity means that Australian tourists are typically not strangers to the culture and attractions of the region. In the same report, Norway and France emerged as the primary short-haul markets, with average stays of 4 to 7 nights. Norwegian tourists primarily visit for dining and shopping experiences, while French visitors are motivated by shopping, sightseeing, and leisure pursuits. Similar to the trends seen in Hong Kong, India is identified

as an emerging market for travel to England (VisitBritain, 2024). These dynamics can be analysed through the travel personality model and the travel career ladder frameworks, which illustrate how individual preferences and experiences develop over time, influencing travel choices and satisfaction. The hierarchy of travel motivation further emphasises that as travellers meet their basic needs, they are inclined to seek more enriching experiences, a trend that England's diverse attractions effectively cater to, enhancing the overall visitor experience.

Theory, Criticism, and Application Discussion

In 1979, Leiper developed a tourism system model to understand tourist flow and inform studies on tourist behaviour, emphasising that tourist motivation is the primary factor driving tourism flows rather than simply the existence of attractions. This view of tourist motivation is a challenge for the widely known push-pull theory; Dann's (1977, 1981) work considers visiting attractions as part of the end. Given the former, Pearce (1991) and Ryan (1998) have become the proponents of the works of Leiper (1979), where tourism motivation is a critical part of the system, where tourists travel and visit attractions to satisfy their motivational needs through experience and flow. Similarly, the travel career pattern (Pearce, 1991) considers motives like escape, relaxation, experiencing novelty, and building relationships as the core layer of tourism over built attractions. In this order, other tourist motivation researchers also explore the pursuit of positive experiences (Filep, 2014; Filep & Greenacre, 2007) and develop a new concept of positive tourism. In one way or another, from the Australian market report and case study, tourist behaviour researchers have shaped Australian Tourism practices regarding attractions, marketing, development and execution philosophy towards the new concept of positive tourism experiences. However, Cohen (1972) argued that tourists seek not only to fulfil their psychological needs but also to experience the true essence of the destination. Pearce (1991) also suggested that motivation evolves within the travel career ladder, while the push-pull theory does not adequately account for these dynamics. Therefore, tourist travel patterns depend on their experience and life cycle as well as their needs and wants (Pearce, 1991; Herbert, 1996; Peters & Weiermair, 2016). Thus, to satisfy these needs, tourists are not only confined to visiting buildings or specific primary attractions like most attractions in Hong Kong and England; instead, they demand an inclusive experience of the overall visit to a given destination. Numerous researchers have claimed that giving tourists the chance to participate in meaningful and enjoyable activities is vital for achieving tourism enterprises (Wall & Mathieson, 2006; Bowen & Clarke, 2009; Morgan, 2010; Ryan & Deci, 2000). Unlike the built attractions, though still crucial as an attraction, today, tourists are becoming interested in experiencing the authentic experience of society and tourism products (Ramkissoon & Uysal, 2018).

Even if there are efforts in Hong Kong and England tourism activities and marketing strategies, Australian Tourism is highly influenced by the tourists' concept and theories of emotion, motivation, and experience, rather than relying purely on the traditional demographic segments. Australian Tourism believes that even if tourists are of similar age, income, and gender, they may have different attitudes, interests, and behaviours. Therefore, they segment and target their consumers based on psychographic aspects like attitudes, interests, and behaviours. The segmented and targeted tourists for Australian tourism are those identified as travellers who enjoy experiences and satisfy their needs by visiting Authentic Australia, positioned as the High-Value Traveller. The country attributes their motivational needs, and the majority pointed out that new knowledge and authenticity satisfy their visits. This way of application challenges the widely accepted Push-Pull tourist motivation theory. However, some tourists have a mix of different needs and try to satisfy their mere attractions and the experience they will face, which are not known in the tourism plan (McKercher, 2017). In comparison and analysis of the three case studies, the long-haul

market is dominated by business tourists rather than short-haul pleasure tourists in Hong Kong and England. Business tourists intend to travel alone, and they are more senior and male-dominated. Short-haul tourists prefer to rest, relax and escape from their daily routine, and short-haul business travellers engage in more shopping activities than long-haul travellers. Therefore, business tourists have specific needs and wants, so they participate in a business event, and the business event represents the particular attraction that satisfies their needs. On the other hand, vacation tourists, like long-haul Australian visitors, have broad needs and wants to meet, and they need more attractions and activities at the destination. These enormous ranges of needs and wants of tourists can be satisfied with any destination and attractions in the destination (Wong *et al.,* 2016; McKercher, 2008; Botti *et al.,* 2008; McKercher & Wong, 2021). In the same way as the studies of Mckercher (2008) and Ho & Mckercher (2014), the long-haul tourists are aged and have a longer night stay than short-haul tourists, which is significantly observed in Australian visitors, with an average of 36 days. Similarly, with these studies, there was a substantially larger number of young short-haul tourists than in the long-haul markets, which is vividly observed in England and Hong Kong visitors, which emphasises the applicability of the push-pull model of tourist motivation in such built attraction-concentrated destinations. Young tourists like visiting destinations with outdoor activities, good shopping centres, socialising with the host community and cheap travel (Tomić *et al.,* 2014). As extracted from the case studies, the travel career pattern (Pearce, 1991) and General-Specific tourist needs continuum (Mckercher, 2017) is likely applicable since the aged and experienced travellers are general-motivated and visit places for education, appreciation and self-development motivation like Australian visitors. In contrast, younger and inexperienced ones travel for specific motives of relaxation and escape, likely in Hong Kong and England, staying shorter and only seeing the built-specific attractions.

Travel Need-Career-Attraction Nexus framework

Following exploring and analysing various theories and models (Maslow, 1943; Plog, 1974; Pearce, 1991; Ryan, 1998; McKercher, 2017) and applying case studies, researchers develop an innovative theoretical and conceptual framework that addresses tourist motivational needs, travel careers, and attractions. This is aptly called the Travel Need-Career-Attraction Nexus framework and is illustrated below.

Figure 1: Travel Need-Career-Attraction Nexus Framework

The framework elucidates the intricate relationship between tourist motivation needs, travel careers, and attractions while interrelating with theoretical frameworks such as the travel personality model, travel career ladder, travel career pattern, and hierarchy of travel

motivation. At the foundation of this framework are the motivation needs, which can be classified into specific and general categories. Specific needs, like the desire for relaxation, adventure, or cultural immersion, align with the hierarchy of travel motivation. This hierarchy posits that travellers progress from basic needs like safety and comfort to higher-level desires for self-actualisation and meaningful experiences. The travel career component of the framework is divided by age, distinguishing younger travellers (under 35) from older travellers (over 35). This segmentation recognises the influence of the travel career ladder, which suggests that as individuals gain more travel experience, their motivations evolve. Younger travellers may prioritise exploration and novelty, often embodying traits from the travel personality model that emphasise openness to experience. In contrast, older travellers may focus more on relaxation and cultural enrichment, reflecting a more developed understanding of their travel preferences. The distinction between inexperienced and experienced travellers within these age categories illustrates the travel career pattern. Inexperienced travellers, who often seek structured experiences, may gravitate towards built attractions such as theme parks and popular landmarks. These attractions provide familiarity and comfort, aligning with their initial motivational needs. Meanwhile, experienced travellers are likelier to pursue unbuilt attractions that offer authenticity and novelty. This pursuit aligns with higher motivational needs for self-discovery and personal growth, echoing the principles outlined in the hierarchy of travel motivation. Ultimately, the interplay between motivation needs, travel careers, and attractions in this framework highlights the complexity of tourist experiences and underscores how various theoretical models can enhance the understanding of travel behaviours and preferences.

Conclusion

Since many tourists engage in different activities after arriving at their destinations, it is not straightforward to argue why tourists visit South Africa, Hong Kong, Australia, and England. It should be addressed even if it is a predetermined visit, whether because of the presence of attractions or satisfying needs. Therefore, the answer is whether attractions “attract” tourists depends on how the attraction is defined, the purpose of tourists’ visits, their engagement in activities, and their needs and wants. Most vacation tourists visit the destinations because of the presence of attractions, but not because of a specific attraction. However, the attractions attracted many business tourists to satisfy their demands. Therefore, the importance of built attractions increases if the demands of tourists are specific and limited, which adheres to the push-pull theory. However, if the demands are broad and undefined, then the power of a particular attraction to attract tourists will be nominal since there will be a wide array of substitute attraction sets in the destination (McKercher & Wong, 2021; McKercher & Koh, 2017). The different tourist motivation approaches and theories remain relevant, including the widely known Push-pull motives. However, nowadays, these approaches may not be used entirely for all tourist segments because technology and society have evolved rapidly, and tourist needs and motivation, as manifested in the travel career pattern model, need variability in experience and age. These unique travel patterns bring about a new tourism typology, like slum, volunteer, farm, and ecotourism, with authenticity and experiential flows rather than focusing on building and specified iconic attractions. In certain circumstances, delineating tourists from non-tourists is becoming challenging since visitors are now interested in being immersed in the experience and flow, requiring revising today’s definition of tourism and criticising the push-pull theory. Surprisingly, irrespective of the primary and built attractions, tourists indirectly become part of the attraction and tourism services. Despite this, it’s difficult to underestimate the attraction’s role in satisfying tourists’ needs. However, focusing on and exclusively promoting the traditional conception of attractions implies a deterrent effect since it will not address tourists with broad and substitutable tourism product needs. Therefore, today’s research-based marketers, like Australian tourism, go beyond merely promoting the built and individualised attractions since tourists with

diverse motives are less likely to be addressed. It will inevitably shift the marketing approach from a specific to an inclusive one, figuring out the tourists' needs satisfaction who are motivated by experience, well-being and authenticity. It is vividly noted that attractions are significant parts of the tourism demand, particularly for tourists with specific needs like visiting friends and relatives and business tourists. However, contemporary marketers understand that attractions are not an end for all tourists; they are a means for tourists with wider and general attraction needs in a given destination. In conclusion, following a thorough exploration of various theories and case studies, the researchers have proposed a novel theoretical and conceptual framework known as the Travel Need-Career-Attraction Nexus. This innovative model presents a promising avenue for future research, aligning with emerging trends in understanding and marketing attractions. It emphasises the importance of addressing tourist satisfaction within today's dynamic tourism experience economy, where positive experiences are paramount. Similarly, like Australian Tourism, the country's head of tourism boards would rather question the traditional push-pull theory, learn the new trends of tourism and tourists' motivational needs and take action in formulating and executing their tourism development and marketing strategies.

Limitations and Future Research Avenue

While the study comprehensively examines the interplay of tourist attractions and motivations, it is essential to recognise certain limitations that may impact the findings. Firstly, although the qualitative case study approach provides valuable insights, it limits the ability to generalise the findings beyond the specific cases being studied. The subjective nature of qualitative research can lead to biases that may not fully capture all tourists' diverse experiences and motivations. Focusing on four specific destinations in South Africa, Hong Kong, Australia, and England may not represent the complete range of global tourism trends. Each destination has unique cultural, social, and economic contexts that shape tourist motivations. Future research could benefit from employing mixed-methods approaches, combining qualitative insights with quantitative data to enhance robustness and generalizability. Thus, expanding the study to include a broader range of destinations, particularly those in emerging markets or less-studied regions, could provide a more comprehensive understanding of how different attractions resonate with diverse motivations. Secondly, while this research incorporates various theoretical concepts and models, it may not address all relevant frameworks in the tourism field. Future studies could explore additional theories, such as the experience economy or the postmodern tourism paradigm, to deepen the analysis of tourist behaviour and attraction dynamics. Another limitation is the reliance on existing market reports and secondary data, which may not capture the latest tourist motivations and behaviour trends, especially in a rapidly evolving tourism landscape influenced by technological advancements and global events. Ongoing research should prioritise real-time data collection through surveys and tourist interviews to keep pace with shifting motivations and expectations. Lastly, this study highlights the need for a deeper exploration of how socio-cultural factors influence tourist motivations and choices. Future research could delve into the impact of cultural exchanges, social media, and globalisation on tourist behaviour, thereby enriching the discourse on tourism dynamics. Although the study contributes important perspectives on the link between attractions and motivations, tackling its limitations and pursuing the proposed avenues for subsequent research will enhance the awareness of tourism as a multifaceted experience. Therefore, such studies will ultimately empower tourism stakeholders to adjust their strategies more effectively to respond to the evolving demands of tourists.

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References

Boorstin, D.J. (1964). *The Image: A Guide to Pseudo-Events in America.* New York: Harper and Row.

Botti, L., Peypoch, N., & Solonandrasana, B. (2008). Time and tourism attraction. *Tourism Management*, *29*(3), 594-596.

Bowen, D., & Clarke, J. (2009). Models of tourist behaviour. *Contemporary tourist behaviour: yourself and others as tourists.* Wallingford, UK: CABI.

Bull, A. (1991). *The economics of travel and tourism* (p. 246). Melbourne, Australia: Longman Cheshire Pty Ltd.

Chang, L.-L., Backman, K. F., & Huang, Y.-C. (2014). Creative tourism: A preliminary examination of creative tourists' motivation, experience, perceived value and revisit intention. *International Journal of Culture, Tourism and Hospitality Research, 8(4),* 401-419.

Cohen, E. (1972). Toward a sociology of international tourism. *Social research*, 164-182.

Crompton J. (1979). Motivations for Pleasure Vacation. *Annals of Tourism Research 6(4),* 408-424.

Crompton, J. L. & McKay, S. L. (1997). Motives of Visitors Attending Festival Events. *Annals of Tourism Research, 24(2),* 425-439.

Dann, G. (1981). Tourist Motivation: An Appraisal. *Annals of Tourism Research, 8(2),* 187-219.

Dann, G. M. S. (1977). Anomie, Ego-enhancement and Tourism. *Annals of Tourism Research, 4(4),* 184-194.

Dean, D. & Suhartanto, D. (2019). The formation of visitor behavioural intention to creative tourism: the role of push–Pull motivation. *Asia Pacific Journal of Tourism Research, 24(5)*, 393-403.

Dunn-Ross E & Iso-Ahola S. (1991). Sightseeing Tourists' Motivation and Satisfaction. *Annals of Tourism Research 18(2),* 226–237.

Filep, S. (2014). Moving beyond subjective well-being: A tourism critique. *Journal of Hospitality & Tourism Research*, *38*(2), 266-274.

Filep, S., & Greenacre, L. (2007). Evaluating and extending the travel career patterns model. *Tourism: An International Interdisciplinary Journal*, *55*(1), 23-38.

Framke, F. (2002). The Destination as a Concept: A Discussion of the Business-Related Perspective versus the Socio-cultural Approach in Tourism Theory. *Scandinavian Journal of Hospitality and Tourism 2(2),* 92–108.

Frochot, I., & Morrison, A. M. (2000). Benefit segmentation: A review of its applications to

travel and tourism research. *Journal of Travel & Tourism Marketing, 9(4),* 21-45.

Gładyk, P., & Podhorodecka, K. (2021). Tourist attractions and the location of campsites in Western Australia. *Current Issues in Tourism*, *24*(15), 2144-2166.

Gibson, H., & Yiannakis, A. (2002). Tourist roles: Needs and the life course. *Annals of tourism research*, *29*(2), 358-383.

Goeldner, C. R. (2000). Tourism 2000: Asia Pacific's role in the new millennium. *Journal of Travel Research*, *38*(3), 280-281.

Hartel, J., Stebbins, R. A., Fulton, C., Chang, S. J., & Case, D. O. (2006). Taking leisure seriously: Information realities in leisure time. *Proceedings of the American Society for Information Science and Technology*, *43*(1), 1-7.

Herbert, DT. (1996). Artistic and Literary Places in France as Tourist Attractions. *Tourism Management 17(2)*, 77–85.

Ho, G. & McKercher, B. (2014). A Comparison of Long-Haul and Short-Haul Business Tourists of Hong Kong. *Asia Pacific Journal of Tourism Research, Vol. 19 (3),* 342 –355.

Hong Kong Tourism Board. (2024). *Annual Report 2023-24.* Retrieved from https://www.discoverhongkong.com/eng/about-hktb/annual-report/annual-report-20232024/sitemap.html April 14, 2025.

Hughes, T. P., Baird, A. H., Bellwood, D. R., Card, M., Connolly, S. R., Folke, C., ... & Roughgarden, J. (2003). Climate change, human impacts, and the resilience of coral reefs. *Science, 301(5635),* 929-933.

Iso-Ahola, S. E. (1982). Toward a social psychological theory of tourism motivation: A rejoinder. *Annals of tourism research*, *9*(2), 256-262.

Jafari, J. (1974). The Components and Nature of Tourism: The Tourism Market Basket of Goods Services. *Annals of Tourism Research 1(3)*, 73–89.

Jamal, T., & Lee, J. H. (2003). Integrating micro and macro approaches to tourist motivations: Toward an interdisciplinary theory. *Tourism Analysis*, *8*(1), 47-59.

Kassean, H., & Gassita, R. (2013). Exploring tourists' push and pull motivations to visit Mauritius as a holiday destination. *Tourismos*, *8*(2), 39-56.

Leiper, N. (1979). The framework of tourism: Towards a definition of tourism, tourist, and the tourist industry. *Annals of tourism research*, *6*(4), 390-407.

Leiper, N. (1990). Tourist Attraction Systems. *Annals of Tourism Research* 17(3): 367–384.

Lew, AA. (1987). A Framework of Tourist Attraction Research. *Annals of Tourism Research* 14(4): 553–575.

Li, M., Zhang, H., Xiao, H., & Chen, Y. (2015). A grid-group analysis of tourism motivation. *International Journal of Tourism Research*, 17(1), 35-44.

Lundberg, D. E. (1976). *The Tourist Business*. Boston. CBI Publishing. Marshall N, Marshall P.

MacCannell, D. (1973). Staged authenticity: Arrangements of social space in tourist settings. *American Journal of Sociology*, *79*(3), 589-603.

Maslow, A. H. (1943). A theory of human motivation. *Psychological Review, 50(4),* 370–39.

Maslow, A. H. (1964). *Religion, values and peak experiences*. Columbus: Ohio State

University Press.

McKercher, B. (2008). The implicit effect of distance on tourist behavior: A comparison of short and long-haul pleasure tourists to Hong Kong. *Journal of Travel & Tourism Marketing*, *25*(3-4), 367-381.

McKercher, B. (2016). Towards a taxonomy of tourism products. *Tourism Management*, *54*, 196-208.

McKercher, B. (2017). Do attractions attract tourists? A framework to assess the importance of attractions in driving demand. *International Journal of Tourism Research, 19(1),* 120-125.

McKercher, B., & Koh, E. (2017). Do attractions "attract" tourists? The case of Singapore. *International Journal of Tourism Research, 19(6),* 661-671.

McKercher, B., & Wong, I. A. (2021). Do destinations have multiple lifecycles? *Tourism Management*, *83*, 104232.

McKercher, B., Ho, P. S., & Du Cros, H. (2004). Attributes of popular cultural attractions in Hong Kong. *Annals of tourism research*, *31*(2), 393-407.

Meng, F., & Uysal, M. (2008). Effects of gender differences on perceptions of destination attributes, motivations, and travel values: An examination of a nature-based resort destination. *Journal of sustainable tourism*, *16*(4), 445-466.

Michael, N., Wien, C., & Reisinger, Y. (2017). Push and pull escape travel motivations of Emirati nationals to Australia. *International Journal of Culture, Tourism and Hospitality Research*, *11*(3), 274-296.

Mill, R. & Morrison, A. (1985). *Tourism System.* Kendall Hunt, Toronto.

Morgan, P. (2010). Towards a developmental theory of place attachment. *Journal of Environmental Psychology*, *30*(1), 11-22.

Moutinho, L. (2000). Consumer behaviour. *Strategic management in tourism*, 41-78.

Patricia, H. & Susan, M. (2005). The Sydney Opera House: An Evolving Icon, *Journal of Architectural Conservation, 11(2),* 7-22.

Pearce, P. L. (1991). Analysing Tourism Attractions. *Journal of Tourism Studies*. 2(1): 46–55.

Pearce, P., & Lee. (2005). Developing the Travel Career Ladder Approach to Tourist Motivation. *Journal of Travel Research 43(3)*, 226–237.

Peters, M. & Weiermair, K. (2016). Tourist Attractions and Attracted Tourists: How to Satisfy Today's Fickle' Tourist Clientele? *Tourism Studies 11(1),* 22-29.

Pine, B. J. & Gilmore, JH. (1998). Welcome to the experience economy. *Harvard Business Review*, *76*(4), 97-105.

Plog, S. C. (1974). Why destination areas rise and fall in popularity. *Cornell hotel and restaurant administration quarterly*, *14*(4), 55-58.

Podoshen, J. S. (2013). Dark tourism motivations: Simulation, emotional contagion and topographic comparison. *Tourism management*, *35*, 263-271.

Prebesen, N. K., Woo, E. W., Chen, J. S., & Uysal, M. (2013). Motivation and involvement as antecedents of the perceived value of the destination experience. *Journal of Travel Research, 52(2),* 253–264.

Ramkissoon, H., & Uysal, M. S. (2018). Authenticity as a value co-creator of tourism experiences. In *Creating experience value in tourism* (pp. 98-109). Wallingford, UK: CAB International.

Ryan, C. (1998). The travel career ladder an appraisal. *Annals of Tourism Research*, *25*(4), 936-957.

Ryan, R. M., & Deci, E. L. (2000). Self-determination theory and the facilitation of intrinsic motivation, social development, and well-being. *American psychologist*, *55*(1), 68.

Sharpley, R., & Stone, P. R. (2009). Life, death and dark tourism: Future research directions and concluding comments. *The darker side of travel: The theory and practice of dark tourism*, 247-251.

South Africa Department of Tourism. (2024). *Annual Report 2023/24 Financial Year*. Retrieved fromhttps://www.tourism.gov.za/AboutNDT/Publications/Department%20of%20Tourism%202023-24%20Annual%20Report.pdf on April 14, 2025.

Suhartanto, D., Brien, A., Sumarjan, N., & Wibisono, N. (2018). Examining attraction loyalty formation in creative tourism. *International Journal of Quality and Service Sciences, 10(2),* 163–175.

Suni, J., & Pesonen, J. (2019). Hunters as tourists–an exploratory study of push-pull motivations. *Scandinavian Journal of Hospitality and Tourism*, *19*(2), 175-191.

Swarbrooke, J. (2002). The development and management of visitor attractions (2nd ed.). Oxford: Butterworth-Heinemann.

Tangeland, T. (2011). Why Do People Purchase Nature-Based Tourism Activity Products? A Norwegian Case Study of Outdoor Recreation. *Scandinavian Journal of Hospitality and Tourism 11(4),* 435–456.

Timothy, D. J. (1997). Tourism and the personal heritage experience. *Annals of tourism research*, *24*(3), 751-754.

Tolman, E. C. (1959). Principles of purposive behavior. *Psychology: A study of a science*, *2*(92-159).

Tomić, N., Kovačević, B., Berber, N., & Milić, N. (2014). Factors influencing the motivation of young people when choosing a city destination in Europe: A case study from Esbjerg, Denmark. *European Researcher, 69(2–2),* 414–428.

Tourism Australia. (2024). *Annual Report of 2023-2024 Financial Year*. Retrieved from https://www.tourism.australia.com/content/dam/digital/corporate/documents/tourism-australia-annual-report-2023-2024.pdf on April 14, 2025.

UN Tourism. (2024). *Tourism Statistics Database*. Retrieved from https://www.unwto.org/tourism-statistics/tourism-statistics-database on April 14, 2025.

UNWTO. (2004). *Indicators of Sustainable Development for Tourism Destinations: A Guidebook*. Madrid, Spain.

UNWTO. (2008). *International recommendations for tourism statistics. Draft Compilation Guide*. Madrid, Spain.

Veiga, C., Santos, M. C., Águas, P., & Santos, J. A. C. (2017). Are millennials transforming global tourism? Challenges for destinations and companies. *Worldwide Hospitality and*

Tourism Themes, *9*(6), 603-616.

VisitBritain. (2024). *England Visitor Attractions: Latest report highlights*. Retrieved from https://www.visitbritain.org/research-insights/england-visitor-attractions-latest, on April 14, 2025.

Wall, G., & Mathieson, A. (2006). *Book Review Tourism: Change, Impacts and Opportunities.*

White, M. P., Alcock, I., Wheeler, B. W., & Depledge, M. H. (2013). Coastal proximity, health and well-being: Results from a longitudinal panel survey. *Health & place*, *23*, 97-103.

Wong, B. K. M., Musa, G., & Taha, A. Z. (2017). Malaysia my second home: The influence of push and pull motivations on satisfaction. *Tourism Management*, *61*, 394-410.

Wong, I. A., McKercher, B., & Li, X. (2016). East meets West: Tourist Interest in Hybrid Culture at postcolonial destinations. *Journal of Travel Research*, *55*(5), 628-642.

Yoon, Y., & Uysal, M. (2005). An examination of the effects of motivation and satisfaction on destination loyalty: A structural model. *Tourism Management, 26,* 45–56.

Tourist Typology, Sustainable Values, And Willingness To Pay For Green Hotels

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Abstract
Tourists' sustainable behavior is a topic of great interest to scholars. This study addresses a gap in the literature by examining the relationships among personality traits, sustainability values, and willingness to pay (WTP) for green hotels, based on 522 survey responses. The results indicate that individuals with different personality traits do not differ significantly in socio-cultural and economic values, but they do differ significantly in environmental values. Allocentric individuals demonstrate the highest sustainable ecological values, while psychocentric individuals show the least. Similarly, allocentric and mid-centric perspectives are more inclined towards WTP for green hotels, unlike psychocentric ones. These findings have practical implications for the tourism industry, suggesting that psychographics can provide unique insights into tourists' behavior. This could empower tourism practitioners to predict sustainability values and WTP and shape their marketing strategies accordingly.

Keywords: Plog's Typology, Sustainability, Willingness to Pay, Green Practices, Consumer Behaviour

Introduction
The hospitality and tourism industry has a significant influence on sustainability discussions due to its economic, socio-cultural, and environmental impacts. For years, this sector has adopted green practices to reduce its ecological footprint, integrating sustainable service features into its operations (Han et al., 2018; Wang et al., 2018). Hotels, as major players in the industry, shape the sustainability dialogue through their resource use and socio-economic effects on local communities (Guzzo et al., 2020). The integration of green initiatives has become essential for hotel management (Kim et al., 2019), driven by increased awareness among managers and growing consumer preference for sustainable practices (Yi et al., 2018). A pertinent question is how we can influence visitors to pay for these green hotels and their services to ensure economic sustainability.

Green hotels are ecologically responsive hotels (Verma & Chandra, 2018). Consumers' willingness to pay (WTP) for green hotels provides the hotel industry with essential insights that support sustainability efforts (Boronat-Navarro & Perez-Aranda, 2020). For this reason, given tourists' likelihood of embracing green behaviors, WTP for green hotels remains a crucial area of interest for academic scholars and hospitality service providers (Kang & Nicholls, 2021). Moreover, scholars accept WTP as a critical contextual factor for predicting behavior and decision-making (Yadav et al., 2024). Earlier papers, such as Dharmesti et al. (2020), noted that the determinants of travelers' WTP for green environmental hotels remain unclear (Li et al., 2023). Therefore, this paper examines the association between tourist typology, sustainability values, and WTP for green hotels.

Plog's (1974) typology categorizes tourists based on their travel motivation and preferences for types of tourist destinations. Both psychocentric and allocentric personalities were identified, with psychocentric personalities referred to as "dependables" and allocentric personalities as "venturers" (Plog, 2001). Often, tourists with psychocentric personalities tend to be more conservative and non-adventurous about their travel decisions and prefer safe destinations, whereas venturers are known to possess high self-confidence and are intellectually curious with an intention to explore new places and experiences (Jeon et al., 2018; Litvin, 2006; Plog, 1974, 2001). Tourists with mid-centric personalities neither fit the

profile of non-adventurous individuals seeking familiar environments nor align entirely with active, outgoing, and adventurous personalities (Litvin, 2006). This typology model is extensively used to understand travelers' attitudes and behaviors (Jeon et al., 2018). Despite its relevance, this typology model has not been empirically examined to understand tourists' attitudes and behaviors for the sustainable marketing and management of tourism destinations. Earlier studies have shown that values are crucial for elucidating specific beliefs and behaviors and can serve as predictors of other dependent variables, such as attitudes or behavioral intentions (Stern, 2000; Stern & Dietz, 1994). In this context, allocentric, mid-centric, and psychocentric may likely have different sustainability values. This idea is one of the study's areas of investigation.

Several studies on WTP for green lodging options primarily focus on environmental attitudes and beliefs (Millar & Mayer, 2013). Nevertheless, the proof regarding WTP for green hotel rooms is mixed (Kang & Nicholls, 2021). Thus, WTP research on green hotels needs to be explored beyond psychological antecedents of behavior (Chen & Peng, 2012; Rahman & Reynolds, 2016). Plog's typology (Plog, 1974) was first introduced to understand visitors' choices regarding destination characteristics, vacation activities, and destination selection. The typologies were linked with the rise and fall of the destinations. It is popular among tourism scholars because it can predict visitors' choices. It is plausible that personality traits will influence the choice of green hotels and the willingness to pay for them. Another reason to consider personality traits is that positive attitudes toward green products do not necessarily translate into green choices, such as staying in green hotels (Bhattacharya & Sen, 2004). Further personality traits influence motivation and tourist destination choices (Abbate & Di Nuovo, 2013).

Thus, the goal of this research is to assess the theoretical significance and utility of Plog's typology in the context of green marketing. This notion is executed by evaluating the sustainability value and WTP for green hotels as a function of tourists' green behavior and its association with Plog's (1974, 2001) venturesomeness. This psychographics framework serves as a reference concept, providing the ground for investigation (Bagozzi, 1984). Moreover, considering the limited research on tourists' psychographics and green behavior, investigating the influence of Plog's personality-based traits can enhance the existing understanding of the association between psychographics and green behavior. Thus, a primary inquiry of this study is how green behavior interacts with Plog's typology in foreseeing WTP for green hotels. This study initiates a novel discussion by linking personality traits with green behaviors and assessing sustainability values among tourists of different typologies. This study can help hotel managers understand and effectively target segments with suitable green products and programs. Hotel managers can offer distinct green products and pricing to customers of different typologies.

Methods

The study utilized online data collected via Facebook using Qualtrics. The snowball sampling technique was also utilized to increase the number of surveys completed by Facebook users. The survey instrument was pilot-tested before actual data collection, and both online and paper-based questionnaires were collected during the pilot testing. Importantly, the survey questionnaire was approved by the Institutional Review Board (IRB) at a tier-one public research university in the U.S, ensuring ethical considerations were met. The data were collected from Fall 2020 to Fall 2021, allowing a flexible timeline that facilitated a high response rate. A total of 522 usable surveys were collected. The target population consisted of individuals 18 years of age and older with prior travel experience, both domestic and international. Therefore, the findings and their implications are not limited to specific destinations.

Web-based questionnaires distributed on online social media platforms, such as Facebook, are popular data-collection methods in hospitality and tourism (Chen et al., 2024; Vukic et al., 2015). They have an advantage in minimizing social desirability and mitigating bias (Hung & Law, 2011; Mariani et al., 2019). In addition, this study captured a wide range of individuals to diversify the sample; for instance, the data is representative to reflect various income, age, education, and gender categories. This diverse sample population, comprising a wide range of individuals, enables the findings to be generalized to global tourism destinations. The survey consisted of questions related to travel patterns and behaviors, WTP, likelihood to pay more, amount willing to pay more, and travel personalities (i.e., psychocentric, mid-centric, and allocentric) proposed by Plog (1974; 2001) as a typology, and sustainable values (Poudel et al., 2016). The study employed descriptive analysis and group comparisons. The analysis of variance (ANOVA) test was used to compare the means of more than three groups, along with the Bonferroni post hoc test.

Findings and discussion

Socio-Demographic Profile and Travel Pattern

The data are well distributed across the demographic variables. The respondents are evenly divided, with 27% male and 72% female, providing a good representation of the genders. Respondents' annual household income ranged from less than $15,000 to over $200,000. The highest concentration of respondents falls within the $50,000 to $125,000 range. Nearly 15% of respondents earned over $200,000. Similarly, nearly 23% of respondents are from the 26-35 age group, 27% are from the 36-45 age group, 20% are from the 45-55 age group, and the remainder are divided among other age groups. Most of the respondents have a bachelor's degree (44%), followed by some college and associate degrees (24%), and 22% have master's degrees. Below 4% hold professional or doctoral degrees. Hence, demographically, the sample represents all the groups.

The review of travel patterns shows that 61% of travelers have 1-5 domestic or international trips per year, and 23% travel 6-10 times per year. Around 11% of travelers travel more than 15 times a year. The average vacation length is 4-7 days for 58% of respondents; around one-fourth have 1-3 days. Around 11% of the respondents have 8-10 days of vacation. For international travel, 45% of respondents reported spending up to $500, and 24% reported spending above $ 3,000. The rest were uniformly divided between. For domestic travel, 44% of respondents reported spending over $2000. Approximately 10 to 15% of the respondents reported spending between $250 and $ 2,000. This shows that domestic travel is also becoming costly for travelers. A vast portion of travelers travel internationally on a budget.

Traveller's distribution based on Plog Typology

A fundamental interest lies in the Plog typology-based population, as different personality traits lead to distinct behaviors (Abbate & Di Nuovo, 2013). This study reveals that only 7.3% of tourists are psychocentric, preferring familiar, well-established destinations, suggesting a risk-averse approach. However, about one-third of the tourists (31.2%) are allocentric, drawn to adventure, new and varied activities, and risk-taking (Table 1). Most people (61.5%) are mid-centric, located in the middle of Plog's Psychographic Model continuum. The study shows this is the general distribution of tourists. It is encouraging that nearly one-third of the population is concerned about the environment, more than half of the tourists are fence-sitters, and fewer than one-tenth are not concerned.

Plog's Typology and Sustainable Tourism Values

Sustainability involves the balanced integration of social, environmental, and economic

performance to benefit both current and future generations (Geissdoerfer et al., 2017). However, how tourists comprehend sustainability remains uncertain. To decipher this, the general agreement among the three dimensions within the Plog typology segments was assessed.

Table 1: Tourists' typology and their sustainable value orientations (N=522; Strongly Disagree = 1 and Strongly Agree = 5)

	Psychocentric (N = 38 - 7.28%)	Mid-centric (N = 321 - 61.49%)	Allocentric (N = 163 - 31.23%)
Environmental Sustainability *	3.44	3.85	4.00
Economic Sustainability **	4.04	4.18	4.25
Socio-cultural Sustainability**	4.00	4.09	4.56

Note: Based on the ANOVA test and post hoc, the Bonferroni test
* The means are significantly different at the 0.05 level
**All three clusters are not significantly different from each other at the 0.05 level

The findings reveal three distinct groups in terms of environmental sustainability values, but the same in terms of socio-cultural and economic sustainability values. Conclusively, the three personality groups differ only in their values regarding environmental sustainability. As Faber et al. (2010) pointed out, sustainability is often understood far too narrowly in ecological terms only. Rokeach (1973) stated that individuals share a set of values organized into value hierarchies and differ in the strength with which they hold values. This study confirms that environmental values are held to varying degrees, with Psychocentric travellers at the lower end of the environmental sustainability spectrum and allocentric travellers at the higher end.

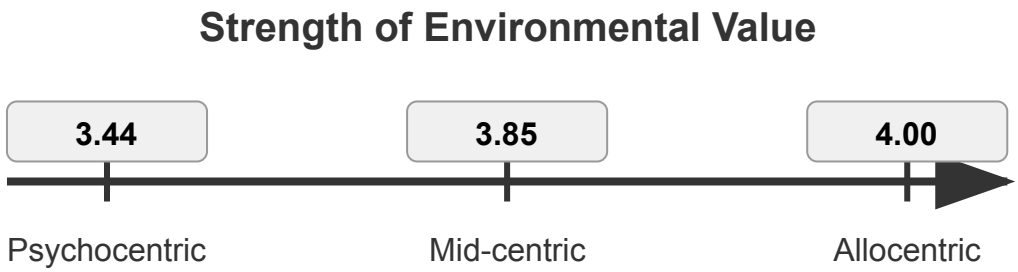

Figure 1: Plog Typology Continuum across Environmental Values

Therefore, the higher environmental value is associated with 'other-centered' individuals who enjoy exposing themselves to diverse cultures and experiences and are willing to take risks in the process. Whereas psychocentric individuals with lower environmental values are 'self-centred', they make traditional choices, which prefer familiar and risk-averse experiences. The mid-centric segment is the most significant centric tilt towards allocentric segments. Figure 1 illustrates the typologies of travelers who find environmental sustainability appealing.

Plog's Typology and Willingness to Pay

The psychocentric group is the least willing to pay for sustainable tourism, with a mean of only 2.92 (Table 2), indicating the least concern for sustainable tourism. Similarly, allocentric tourists are most likely to pay for sustainable tourism, with a mean value of 3.71, indicating their highest level of care for sustainable tourism. Further, mid-centric individuals are more

inclined towards allocentric for WTP for sustainable tourism. They are more willing to pay for sustainable tourism than psychocentric travellers. This outcome is encouraging and is consistent with studies. Research on Booking.com has reported that 87% of global tourists expressed an intention to travel sustainably (Booking.com, 2019). Therefore, most of the population has positive attitudes toward green products. In this study, too, mid-centric and allocentric tourists comprise the majority (92%), who are more willing to pay for sustainable tourism.

Table 2: Plog typology distribution and willingness to pay

Typology	Destination preferences	Willingness to pay more for sustainable tourism (Very Unlikely = 1 and Very Likely = 5)
Psychocentric	I prefer destinations with well-developed amenities (branded hotels and restaurants) and attractions for tourism	2.92***
Mid-centric	I prefer destinations with well-developed amenities that also give me the opportunity to escape the crowd to explore less developed or natural areas	3.53**
Allocentric	I prefer less-developed destinations (without well-developed amenities) to avoid crowded places and/or look for new experiences and adventures	3.72*

Note: Based on the ANOVA test and post hoc, the Bonferroni test
*** Psychocentric is significantly different than Mid-centric and Allocentric
** Mid-centric is significantly different than Psychocentric but not significantly different than Allocentric
* Allocentric is significantly different than Psychocentric but not significantly different than Mid-centric

This outcome can be explained by allocentric tourists seeking authentic places and willing to pay for them, whereas psychocentric tourists prefer familiar places, are more inclined towards mass tourism (Tasci & Knutson, 2004), and are unwilling to pay for sustainable tourism. However, most people are mid-centric, wanting both amenities and the natural environment. This notion is explained by Holloway and Humphreys (2022), who state that the three core elements of a thriving destination are quality of attraction, amenities, and accessibility. Mid-centric people tend to get most of the core elements in the destinations' offerings, so they are willing to pay significantly more. This represents the majority (62%) of the population.

The nature of allocentric, mid-centric, and psychocentric segments' WTP for sustainable tourism was further validated. The findings show that slightly less than half (47%) of psychocentric tourists are unwilling to pay no more than their usual $100 for a green hotel; further, allocentric and mid-centric tourists show similar patterns. Only less than one-third (31%) are psychocentric tourists, but more than half of mid-centric (55%) and allocentric (59%) tourists are willing to pay more than $11 per night for green hotels. This demonstrates that allocentric and mid-centric are inclined toward sustainable tourism.

Table 3: Plog typology and willingness to pay for green hotel

	Psychocentric (7.28%)	Mid-centric (61.49%)	Allocentric (31.23%)
	Percent	Percent	Percent
No more than my usual $100	**47.4**	17.8	16
Up to $5 more per night	0	7.2	4.9
From $6 to $10 more per night	21.1	19.9	20.2

From $11 to $20 more per night	21.1	**26.5**	**23.3**
From $21 to $30 more per night	5.3	15.3	20.2
From $31 to $50 more per night	0	11.2	9.8
Greater than $50 more per night	5.3	2.2	5.5
	100	100	100

Hence, the outcome shows that the strength of environmental values increases from psychocentric to allocentric, and this is subsequently reflected in their willingness to pay (WTP) for green hotels. Based on the findings, we can propose the following relational model with confidence. Plog Typology (personality traits) Sustainability Values (environmental sustainability values) WTP for green hotels (see Table 4)

Table 4: Relation between Plog Typology, Sustainability value and WTP for green hotels

Psychocentric	Midcentric	Allocentric
Weakest Environmental Value	Moderate Environmental Value	Strongest Environmental Value
Weakest WTO for green hotels	Moderate WTP for green hotels	Strongest WTP for green hotels

Hence, a higher degree of venturesomeness leads to stronger environmental values and a higher willingness to pay for green hotels, and stronger environmental values also correspond with a higher willingness to pay for green hotels.

Conclusion, implications, and future research

This study uniquely assessed sustainability values and WTP for green hotels across Plog's typology. Only the allocentric and mid-centric perspectives are willing to pay more for sustainable tourism and have higher environmental sustainability values. Hence, the personality traits of tourists, as suggested by Plog (1974), contribute to understanding tourists' sustainable behavior, a key finding of this study. The study undertakes the important task of initiating a discussion on the usefulness of Plog typology for understanding sustainable behaviors. It shows that different travellers with varying Plog personality traits have different sustainability values, which translates into WPT for green hotels. This finding confirms the utility of the Plog typology, which is a theoretical contribution to the literature in this area.

Furthermore, it provides a portrayal of travellers' distribution across the Plog typology. Most tourists are mid-centric, leaning toward the allocentric segment, with 9 out of 10 indicating their WTP for sustainable tourism. This finding suggests that most people want comfortable, convenient green products. Secondly, it demonstrates that personality traits are linked to environmental values and sustainable choices, such as WTP for green hotels. On the practical side, sustainability marketers can understand their personality traits and use them to create value with green products and services, as well as to price offerings targeted to specific groups of travelers. Similarly, they can develop targeted communication for each visitor segment.

Additionally, the study concludes that while environmental sustainability resonates well across segments, economic and sociocultural aspects may be less practical in promoting sustainability. For instance, the economic benefits of sustainability may not be immediately apparent to consumers, and sociocultural aspects may be more difficult to communicate effectively. However, the findings are specific to the green hotel context and may not apply to other tourism sectors. Future research can build on these insights, using Plog's typology as a

foundation for further investigations in areas like restaurants and airlines.

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References:

Abbate, C. S., & Di Nuovo, S. (2013). Motivation and personality traits for choosing religious tourism. A research on the case of Medjugorje. *Current Issues in Tourism*, *16*(5), 501-506.

Bagozzi, R. P. (1984). A prospectus for theory construction in marketing. *Journal of marketing*, *48*(1), 11-29.

Bhattacharya, C. B., & Sen, S. (2004). Doing better at doing good: When, why, and how consumers respond to corporate social initiatives. *California Management Review*, *47*(1), 9-24.

Booking.com. (2019). Booking.com reveals key findings from its 2019 sustainable travel report. https:// globalnews.booking.com/bookingcom-reveals-key-findings-from-its-2019- sustainable-travel-report.

Boronat-Navarro, M., & Pérez-Aranda, J. A. (2020). Analyzing willingness to pay more to stay in a sustainable hotel. *Sustainability*, *12*(9), 3730.

Chen, A., & Peng, N. (2012). Green hotel knowledge and tourists' staying behavior. *Annals of Tourism Research*, *39*(4), 2211-2219.

Chen, C. F., White, C., & Ting, W. H. (2024). Consumer engagement and place identity in online travel forums. *Tourism Recreation Research*, *49*(6), 1273-1283. https://doi.org/10.1080/02508281.2022.2143623

Dharmesti, M., Merrilees, B., & Winata, L. (2020). "I'm mindfully green": Examining the determinants of guest pro-environmental behaviors (PEB) in hotels. *Journal of Hospitality Marketing & Management*, *29*(7), 830-847.

Faber, N. R., Maruster, L., Peters, K., & van Haren, R. J. F. (2010). Knowledge management's role in the management of sustainable innovation. *International Studies of Management Organization*, *40*(3), 8-22.

Geissdoerfer, M., Savaget, P., Bocken, N. M., & Hultink, E. J. (2017). The Circular Economy–A new sustainability paradigm? *Journal of Cleaner Production*, *143*, 757-768.

Guzzo, R. F., Abbott, J., & Madera, J. M. (2020). A micro-level view of CSR: A hospitality management systematic literature review. *Cornell Hospitality Quarterly, 61*(3), 332-352. https://doi.org/10.1177/1938965519892907

Han, H., Lee, J. S., Trang, H. L. T., & Kim, W. (2018). Water conservation and waste reduction management for increasing guest loyalty and green hotel practices. *International Journal of Hospitality Management*, *75*, 58-66.

Holloway, J. C., & Humphreys, C. (2022). *The Business of Tourism*. Sage.

Hung, K., & Law, R. (2011). An overview of Internet-based surveys in hospitality and tourism journals. *Tourism Management*, *32*(4), 717-724. https://doi.org/10.1016/j.tourman.2010.05.027

Jeon, H., Ok, C., & Choi, J. (2018). Destination marketing organization website visitors' flow experience: an application of Plog's model of personality. *Journal of Travel & Tourism Marketing*, *35*(4), 397-409. https://doi.org/10.1080/10548408.2017.1358234

Kang, S., & Nicholls, S. (2021). Determinants of willingness to pay to stay at a green lodging facility. *International Journal of Hospitality Management*, *94*, 102834.

Kim, Y. H., Barber, N., & Kim, D. K. (2019). Sustainability research in the hotel industry: Past, present, and future. *Journal of Hospitality Marketing & Management*, *28*(5), 576-620.

Li, R., Ma, Y., Ding, Z., & Mou, Y. (2023). Time-space-connections in online pro-environmental behavior choice. *Journal of Cleaner Production*, *414*, 137598.

Litvin, S. W. (2006). Revisiting Plog's model of allocentricity and psychocentricity... one more time. *Cornell Hotel and Restaurant Administration Quarterly*, *47*(3), 245-253. https://doi.org/10.1177/0010880406289138

Mariani, M., Ek Styven, M., & Ayeh, J. K. (2019). Using Facebook for travel decision-making: an international study of antecedents. *International Journal of Contemporary Hospitality Management*, *31*(2), 1021-1044. https://doi.org/10.1108/IJCHM-02-2018-0158

Millar, M., & Mayer, K. J. (2013). A profile of travelers who are willing to stay in environmentally friendly hotel. *Hospitality Review*, *30*(2), 5.

Plog, S. (2001). Why destination areas rise and fall in popularity: An update of a Cornell Quarterly classic. *Cornell Hotel and Restaurant Administration Quarterly*, *42*(3), 13-24. https://doi.org/10.1016/S0010-8804(01)81020-X

Plog, S. C. (1974). Why destination areas rise and fall in popularity. *Cornell Hotel and Restaurant Administration Quarterly*, *14*(4), 55-58. https://doi.org/10.1177/001088047401400409

Poudel, S., Nyaupane, G. P., & Budruk, M. (2016). Stakeholders' perspectives of sustainable tourism development: A new approach to measuring outcomes. *Journal of Travel Research*, *55*(4), 465-480. https://doi.org/10.1177/0047287514563166

Rahman, I., & Reynolds, D. (2016). Predicting green hotel behavioral intentions using a theory of environmental commitment and sacrifice for the environment. *International Journal of Hospitality Management*, *52*, 107-116.

Rokeach, M. (1973). The nature of human values. *New York: The Free Press. Şimşek*, (2012).

Tasci, A. D., & Knutson, B. J. (2004). An argument for providing authenticity and familiarity in tourism destinations. *Journal of Hospitality & Leisure Marketing, 11*(1), 85-109.

Verma, V. K., & Chandra, B. (2016). Hotel guest's perception and choice dynamics for green hotel attribute: A mix method approach. *Indian Journal of Science and Technology*, *9*(5), 1-9.

Vukic, M., Kuzmanovic, M., & Kostic Stankovic, M. (2015). Understanding the heterogeneity of Generation Y's preferences for travelling: A conjoint analysis approach. *International Journal of Tourism Research*, *17*(5), 482-491. https://doi.org/10.1002/jtr.2015

Wang, J., Wang, S., Xue, H., Wang, Y., & Li, J. (2018). Green image and consumers' word-of-mouth intention in the green hotel industry: The moderating effect of Millennials. *Journal of Cleaner Production*, *181*, 426-436.

Yadav, M., Gupta, R., & Nair, K. (2024). Time for sustainable marketing to build a green conscience in consumers: Evidence from a hybrid review. *Journal of Cleaner Production*, 443, 141188.

Yi, S., Li, X., & Jai, T. M. (2018). Hotel guests' perception of best green practices: A content analysis of online reviews. *Tourism and Hospitality Research*, *18*(2), 191-202.

Community Perception Towards Tourism Development In Lahaul Valley, Himachal Pradesh (India)

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Abstract
The inauguration of the Atal Tunnel in October 2020 altered the tourism environment of Lahaul Valley in Himachal Pradesh, India and allowed year-round accessibility to the region. With this accessibility came a rapid influx of tourists, bringing both advantages and disadvantages to the local population. In ecologically fragile regions with rich cultural traditions like Lahaul, a community perception approach to tourism development is vital to ensure sustainable tourism development.

This study examined the local community's perception of tourism across three core dimensions: economic, socio-cultural, and environmental impacts. The analysis was guided by three hypotheses focusing on the influence of demographic variables—age, gender, education, occupation, and involvement in tourism—on residents' perceptions. The study also examined the per capita income that tourism generates among the respondent group. This study employed a descriptive research design and a quantitative approach. Primary data was obtained by the use of a structured questionnaire administered to 400 respondents from villages offering tourism-related activities.

The study reveals that tourism provides a stable and substantial mid-level income for a majority of local households. However, the most important finding that emerged from this study is the contrast in the nature of residents' perceptions across the three domains of tourism impact. In terms of economic and socio-cultural impacts, perceptions were mixed, reflecting both optimism and concern. The perceptions also vary according to specific demographic variables tested. In contrast, respondents across all tested demographic variables exhibited a strong and unified level of concern regarding environmental impacts, reflecting the fragility of the Himalayan ecosystem and the urgency for sustainable planning. The overall findings of the study support the need for integrated tourism policies that capitalize on economic potential and cultural strengths while placing environmental sustainability at the core of development strategies.

Keywords: Lahaul Valley, Community Perception, Tourism Development, Sustainability, Himachal Pradesh.

Introduction
Lahaul Valley, nestled in the Trans-Himalayan region in the state of Himachal Pradesh, India is endowed with stark cold desert landscapes, Buddhist monasteries, and adventure opportunities. Before the opening of the Atal Tunnel (built over the Rohtang Pass) in October 2020, tourism in the Lahaul valley has been developing slowly over the years because of the remoteness of the region. Previously, the valley was inaccessible to visitors for nearly 6-8 months in a year especially during the monsoon and winters; however, the commissioning of the Tunnel now provides enhanced accessibility (almost) throughout the year except for a few temporary closures caused by severe weather conditions. The starting point for many travelers heading to Lahaul is Manali, a major tourist hub in Himachal Pradesh. The tunnel now ensures uninterrupted connectivity between Manali and Lahaul spurring a surge in tourist inflows to areas like Sissu, Jispa, Tandi, Udaipur, Keylong, and Chandratal Lake. This development has positioned tourism as a key economic driver; however, the rapid growth of tourism in this ecologically fragile and culturally rich region raises questions about its

sustainability and impact on local communities.

Community perception plays a pivotal role in shaping the trajectory of tourism, as local attitudes influence the acceptance and success of tourism initiatives. If the residents' perception is positive, it fosters support, collaboration, and active participation while negative perceptions can lead to indifference or opposition and can hinder development (Yoon et al., 2001; Pekerşen & Kaplan 2022). In Himalayan regions, where communities rely on agriculture, tourism is increasingly seen as a supplementary income source. In Himachal Pradesh, studies highlight that communities generally perceive tourism as a development driver. Barbhuiya (2023) notes that post-pandemic tourism strategies in the state have emphasized economic recovery, with locals valuing tourism for its role in boosting household incomes and infrastructure development. However, negative perceptions arise when tourism disrupts local lifestyles or strains resources, as seen in overcrowded destinations like Kullu-Manali (Gupta & Sharma, 2022). Lahaul, being an emerging as well as an ecologically fragile destination, offers a unique case to explore how communities perceive the benefits and challenges in a less commercialized setting.

This research aims to explore the community perception towards tourism development in Lahaul Valley, with a focus on informing the optimal path for developing tourism sustainably.

Literature Review

Community perception is a critical factor in the sustainability of tourism development. Community perceptions are influenced by the economic, socio-cultural and environmental impacts of tourism (Tosun, 2002). Understanding community views on the ***economic*** (employment, income, job creation, infrastructure development etc), ***socio-cultural*** (cultural exchanges, cultural pride, cultural erosion, increased crime rates, changes in social norms etc), and ***environmental*** (awareness for conservation, pollution, waste generation, overuse of resources) impacts allows for developing appropriate plans, policies and sustainable strategies that align with the needs of the local community and thereby contribute to the overall resilience and sustainability of the destination. This understanding and approach are particularly relevant for emerging and fragile destinations like the Lahaul valley. In such cases, early and continuous local community engagement is crucial more so because of the heightened sensitivity of their social, cultural, and ecological systems.

Economic Effects and Community Perceptions

Studies like the one done by Linderová et al. (2021) emphasize that positive economic perceptions depend on community involvement in tourism planning to ensure local retention of profits. Tourism is a significant economic contributor in Himachal Pradesh, accounting for approximately 7.785% of the state's GDP (Economic Survey 2024-25, Government of Himachal Pradesh). Local communities perceive economic benefits through direct employment in homestays, dhabas, and guiding, as well as indirect benefits in agriculture (e.g., selling vegetables) and handicrafts (Sharma et al., 2021). Women, in particular, have embraced entrepreneurship through homestays, fostering economic empowerment (Chauhan, 2020). However, economic leakage remains a concern. Kumar and Gupta (2018) argue that external tour operators often capture a significant share of tourism revenue, limiting benefits to local communities.

Socio-Cultural Effect and Community Perceptions

Earlier research has found that tourism influences the socio-cultural fabric of host communities, with both positive and negative implications. Conversely, rapid tourism growth risks cultural commodification and social disruption. Mitigating the negative socio-cultural impacts is the way out with one strategy being community participation in tourism

governance ensuring that cultural heritage is respected (Hussain et al., 2024). These findings also resonate in Himalayan tourism context also. In their study, 'Cultural preservation in Himalayan tourism', Singh & Chauhan (2023) found that community perceptions are generally positive when tourism promotes cultural preservation, such as through festivals like Losar or the revival of traditional crafts. Gupta and Sharma (2022) highlight that in nearby Manali, locals perceive tourism as eroding traditional values due to commercialization. In Lahaul, the blend of Tibetan Buddhism and Hinduism, exemplified by monasteries like Guru Ghantal and temples like Trilokinath, attracts cultural and spiritual tourists (Singh & Mishra, 2020) and that tourism facilitates cultural exchange, enhancing local pride in Lahauli identity (Kumar & Singh, 2021).

Environmental Effects and Community Perceptions

Studies in Himalayan regions, like Nako in Kinnaur, show that communities support tourism when it aligns with environmental conservation (Sharma & Singh, 2016). In their paper, 'Climate change and tourism in the Himalayas', Sharma & Chauhan (2022) noted that community perceptions on environmental effects of tourism development are often negative when tourism threatens local resources, such as water or grazing lands, critical for agriculture and animal husbandry. In this context, ecotourism, which balances economic gains with environmental preservation, is well-received by communities in Himachal Pradesh (Krishnanand, & Raman, V.A.V. (2019); Kumar et al. (2017). Lahaul's cold desert ecosystem is highly vulnerable to tourism-related pressures, including waste accumulation, vehicular emissions, and resource depletion (Kuniyal, 2002). The surge in tourists post-Atal Tunnel has raised environmental concerns, prompting the Himachal government to form a committee to regulate tourism and protect Lahaul's ecosystem. The main objective of this committee is to ensure sustainable tourism in Lahaul and Kullu regions.

Community Participation and Sustainable Tourism

Community participation is pivotal to shaping positive perceptions and ensuring sustainable tourism. Tosun (2006) argues that involving locals in planning and decision-making enhances their sense of ownership and mitigates negative impacts. In Himachal Pradesh, programs like the Devbhoomi Darshan Yojna, which trains locals as tourist guides, have fostered positive community attitudes by providing economic and social benefits (HPTDC, 2023). Homestays, promoted under the 2008 'Incredible India Bed and Breakfast scheme', have similarly empowered communities including Lahauli's by integrating them into the tourism value chain (HP Economic Survey, 2013-14). However, barriers to participation, such as limited education or access to resources, can lead to negative perceptions. In Nako, an upcoming tourist destination in Kinnaur district of Himachal Pradesh, Sharma and Singh (2016) found that communities felt excluded from tourism benefits due to inadequate infrastructure and training. Lahaul faces similar challenges, with limited accommodation and tourist facilities potentially undermining community support for tourism (Kumar & Singh, 2021). Smart tourism initiatives, such as digital platforms for bookings and information, could enhance participation and improve perceptions by making tourism more accessible to locals (Zhang et al.,2022).

Lahaul-Specific Studies and Gaps

While literature on Himachal Pradesh's tourism is extensive, most research focuses on the broader Lahaul-Spiti district or popular destinations like Kullu-Manali. Lahaul-specific studies are scarce highlighting only its tourism potential and does not delve into perceptionsThere are studies that offer insights into Himalayan community perceptions like Barbhuiya (2023) and Hussain et al. (2024), but their focus on other regions limits direct applicability to Lahaul. Publications like Outlook India and Times of India do provide anecdotal evidence of community concerns about overcrowding and environmental degradation in Lahaul post-Atal

Tunnel, but lack empirical data. Therefore, key gaps include the absence of studies on Lahaul's community perceptions, particularly post-2020, when tourism surged.

Objectives

The study will examine the local community's perception of tourism development in Lahaul Valley, focusing on three core areas:

- To assess the economic impacts of tourism as perceived by local communities, including employment, income generation, and infrastructure development.
- To study the socio-cultural impact of tourism, focusing on cultural preservation and cultural identity, cultural pride, and socio-cultural harms like commodification and/or disruption.
- To assess community concerns about the environmental impact of tourism, including perceptions of ecosystem fragility, pollution, strain on resources, and conservation.
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Hypotheses

Community perceptions of tourism are significantly influenced by demographic variables such as age, gender, education, occupation, and income. These factors shape how residents evaluate tourism's economic benefits, socio-cultural effects, and environmental consequences, leading to a diversity of attitudes toward its development and sustainability. The current study is interested in examining the association between socio-demographic factors and residents' perceptions. Understanding these differences ensures inclusive tourism planning that reflects the needs and concerns of all demographic groups. It will also help identify which groups need more support, awareness, or involvement in decision-making. The following hypotheses are framed:

- Hypothesis -Economic Impacts

H1: Residents' perceptions of the economic impacts of tourism vary significantly based on age, gender, educational background, involvement in tourism, and occupation.

- Hypothesis B - Socio-Cultural Impacts

H2: Residents' perceptions of the socio-cultural impacts of tourism vary significantly based on age, gender, educational background, involvement in tourism, and occupation.

- Hypothesis - Environmental Impacts

H3: Residents' perceptions of the environmental impacts of tourism vary significantly based on age, gender, educational background, involvement in tourism, and occupation.

Research Methodology

A descriptive research design with a quantitative approach was employed in this study to systematically study how local communities perceive tourism development in Lahaul Valley, which led to measurable attitudes and opinions on each of the economic, socio-cultural, and environmental dimensions of tourism through the use of statistical tools to analyse the responses.

Research Instrument

The primary instrument used for this study was a structured questionnaire administered through face-to-face scheduled interviews. The first section collected the demographic profile of the respondents concerning variables like age, gender, level of education, occupation, income, and involvement in tourism. The second section included three sub-sections that collected community perceptions on economic, socio-cultural, and environmental aspects. Each dimension contained 12 items measured with a Likert scale of agreement. These items were rated on a scale of 1 to 5 in which Strongly Agree = 1 and Strongly Disagree =5.

The reliability of the instrument was assessed to determine its internal consistency using

Cronbach's Alpha coefficient. The calculated value was 0.779, and according to reliability thresholds (Hair et al., 2010), it indicated that the scale was statistically reliable and that it had an acceptable threshold for reliability. This means that the items used to construct the questionnaire reliably measured the constructs as reflected through the instruments.

Sampling and Data Collection

We targeted respondents from within the major tourism-influenced villages of Lahaul Valley, namely Sissu, Koksar, Gondhala, Tandi, Keylong, Jispa, Chandratal Lake, and Serchu. A purposive sampling method was applied to ensure representative demographic and economic characteristics of the Lahaul valley population. The total population of Lahaul is 10,199 as per Himachal Pradesh Government records and a total of 400 respondents were surveyed for the study.

The primary data were collected between July 2024 and February 2025. The timing coincided with peak periods of tourism activity, which ensured that responses were current and contextualized to the ongoing impact of tourism. The interviews were conducted in a more conversational fashion and cultural sensitivity, to encourage authentic responses from the respondents. Whenever possible, explanation and clarifications were made to the respondents to ensure they understood the questionnaire items. All relevant ethical guidelines for social research, especially in rural and indigenous contexts were adhered to during the study.

Data Analysis Tools

The data collected were processed and analysed with Statistical Package for the Social Sciences (SPSS). Descriptive statistics (means and standard deviations) were used to interpret the overall community perceptions of tourism. A subsequent inferential statistical analysis was used to assess for differences in perceptions across the demographic categories of age, gender, education level, occupation, and tourism involvement. Cross tabulations of selected demographic data were also performed in order to examine the per capita income that tourism generates among the respondent group.

Findings and Analysis

Demographic Profile of Respondents

The sample presented a modestly higher response rate of male data providers 59.3 percent; and a lower female response rate of 40.8 percent.

Table 1: Gender of Respondents

Gender	Frequency	Percent
Male	237	59.30%
Female	163	40.80%
Total	**400**	**100.00%**

The distribution of gender suggests a reasonable representation of both genders ensuring that views of both are present in the data relating to tourism development.

Table 2: Marital Status of Respondents

Marital Status	Frequency	Percent
Single	30	7.50%
Married	370	92.50%

Total	**400**	**100.00%**

An overwhelming majority of the respondents (92.5%) were married which indicates that most respondents were settled adults who may have long-term perspectives on how tourism may impact community livelihood and values.

Table 3: Age Distribution of Respondents

Age Group	Frequency	Percent
20–29 Years	7	1.80%
30–39 Years	115	28.70%
40–49 Years	135	33.80%
50–59 Years	81	20.30%
More than 60 Years	62	15.50%
Total	**400**	**100.00%**

The largest percentage of respondents (33.8%) were in the 40 - 49 years group, followed by 30 - 39 years (28.7%). Thus, the majority of the study captured perceptions of adults within middle adulthood - an age group involved in economic and cultural activities in their communities.

Table 4: Educational Qualifications of Respondents

Education Level	Frequency	Percent
Less than High School	48	12.00%
High School	91	22.80%
College Degree	212	53.00%
Master's Degree & Above	31	7.80%
Professional Degree	18	4.50%
Total	**400**	**100.00%**

The majority of the respondents (53%) completed college and 12% did not graduate high school. Thus, we could reasonably conclude that the respondent base is fairly educated and impact awareness and opinions related to tourism development may be affected.

Table 5: Occupational Status of Respondents

Occupation	Frequency	Percent
Employed	33	8.30%
Farmer	39	9.80%
Self-Employed	281	70.30%
Housewife	35	8.80%
Retired	12	3.00%
Total	**400**	**100.00%**

Majority (70.3%) of the respondents were self-employed, primarily due to the prominence of tourism-related micro-businesses (e.g., homestays, food stalls, small shops). This occupational profile indicates the direct economic relationship many respondents held in respect to tourism.

Table 6: Annual Income of Respondents

Annual Income	Frequency	Percent
₹1–5 Lakhs	29	7.20%

₹6–10 Lakhs	259	64.80%
₹11–20 Lakhs	60	15.00%
Above ₹20 Lakhs	52	13.00%
Total	**400**	**100.00%**

Most of the respondents (64.8%) shared an income of ₹6–10 lakhs a year while a relevant percentage of 13% have earned above ₹20 lakhs.

Table 7: Involvement in Tourism Activities

Involvement in Tourism	Frequency	Percent
Yes	306	76.50%
No	94	23.50%
Total	**400**	**100.00%**

Most of the respondents (76.5%) were engaged directly with tourism-related activities. Respondents' high exposure level recommended that the community is engaged in the tourism economy, consequently their perceptions of tourism would be meaningful.

Demographic Relationship

Cross tabulations of the following demographic data were performed: Involvement in Tourism and Annual Income; Occupation and Annual Income and Involvement in Tourism and Occupation. The intent was to examine the per capita income that tourism generates among the respondent group. The per capita income generated by tourism plays a crucial role in shaping community acceptance of tourism development.

Table 8: Crosstabulation of Involvement in Tourism and Annual Income

Involvement in Tourism	1–5 Lakhs	6–10 Lakhs	11–20 Lakhs	Above 20 Lakhs	Total
Yes (n = 306)	27 (8.8%)	229 (74.8%)	40 (13.1%)	10 (3.3%)	306 (100%)
No (n = 94)	2 (2.1%)	30 (31.9%)	20 (21.3%)	42 (44.7%)	94 (100%)
Total (N = 400)	29 (7.2%)	259 (64.8%)	60 (15.0%)	52 (13.0%)	400 (100%)

Table 9: Crosstabulation of Involvement in Tourism and Occupation

Occupation	Involved in Tourism (Yes)	Not Involved (No)	Total (n)
Employed	17 (51.5%)	16 (48.5%)	33
Farmer	32 (82.1%)	7 (17.9%)	39
Self-employed	250 (89.0%)	31 (11.0%)	281
Housewife	0 (0.0%)	35 (100.0%)	35
Retired	7 (58.3%)	5 (41.7%)	12
Total	306 (76.5%)	94 (23.5%)	400

Table 10: Crosstabulation of Occupation and Annual Income

Occupation	1–5 Lakhs	6–10 Lakhs	11–20 Lakhs	Above 20 Lakhs	Total (n)
Employed	3 (9.1%)	6 (18.2%)	20 (60.6%)	4 (12.1%)	33

Farmer	9 (23.1%)	23 (59.0%)	7 (17.9%)	0 (0.0%)	39
Self-employed	15 (5.3%)	226 (80.4%)	30 (10.7%)	10 (3.6%)	281
Housewife	0 (0.0%)	0 (0.0%)	0 (0.0%)	35 (100.0%)	35
Retired	2 (16.7%)	4 (33.3%)	3 (25.0%)	3 (25.0%)	12
Total	29 (7.2%)	259 (64.8%)	60 (15.0%)	52 (13.0%)	400

Among the tourism-involved group, a vast majority (91.2%; n=306) reported 6 lakh and above annual income with the lower end of 6–10 lakhs income bracket being the dominant group (74.8%). Interestingly, a staggering 97.9 % non-involved households reported more than 6 lakh annual income (n=94); also, here the majority (44.7%) is concentrated in the highest income bracket (>20 lakhs); possibly indicating dependence on other profitable occupations (e.g., business, government jobs, or remittances). However, the comparison between the two groups cannot be conclusive since the total number of respondents in the tourism-involved group is three times more than that of the tourism non-involved group. The key take-away from this cross-tabulation exercise is that tourism provides a stable source of mid-level income (6-10 lakhs) for the majority of local households in Lahaul. Incidentally this figure is much higher than the average Per Capita Income (PCI) at current prices for FY2024-25 of the state of Himachal Pradesh which is estimated at ₹2,57,212 (Economic Survey Himachal Pradesh 2024-25) and the average figure for India which is ₹ 2,00,162 (National Statistical Office, GoI).

Community Perception Findings and Corresponding Hypothesis testing

Economic Impact Perception

This section investigates how the community perceive the economic impact of tourism.

Table 11: Economic Perception – Summary Statistics

Statement	Mean	SD
Tourism creates employment opportunities for the locals.	4.16	0.36
Introduction of tourism is beneficial to the local economy.	4.12	0.44
Tourism contributes to income and standard of living of the locals.	4.1	0.3
Some people are earning money by leasing out their lands and property for tourism activities.	4.1	0.38
Tourism development leads to high prices of land and property.	4.11	0.31
Tourism economy is dominated by the non-natives.	3.85	0.69
The cost of daily use items & commodities has gone up in the area because of tourism activities.	4.03	0.41

Overall, respondents agreed with the statements that tourism creates jobs, improves income and living standard. However, rise in prices of land, property and commodities were also raised as concerns. The respondent perception of being "tourism economy being dominated by non-natives" (3.85) was a noteworthy moderately strong negative indicator.

Hypothesis H1

There are significant differences in residents' perceptions of the economic impacts of tourism based on age, gender, education, involvement in tourism, and occupation.

Here, the Dependent Variable is ‘Residents' perceptions of the economic impacts of tourism’.

Table 12: Summary of SPSS Results – Economic Impact Perceptions (Hypothesis H1)

Independent Variable	Test Used	Sig. (p-value)	F / t Statistic	Significance	Post-hoc (Tukey's)
Gender	Independent t-test	0.065	t = 1.85	Not Significant	Not applicable
Age Group	One-Way ANOVA	0.021	F = 3.12	Significant	Significant difference: 40–49 vs. 60+
Education Level	One-Way ANOVA	0.042	F = 2.81	Significant	College Degree vs. Less than HS: $p < 0.05$
Involvement in Tourism	Independent t-test	0.001	t = 3.29	Highly Significant	Not applicable
Occupation	One-Way ANOVA	0.056	F = 2.48	Marginally Significant	Not conclusive; Tukey's not significant

Gender did not show a statistically significant difference (p = 0.065), meaning males and females in general have a similar perception of the impact of tourism on the economy. Thus, for Gender: p = 0.065→ fail to reject H_o1 for Gender (no difference).

Age was statistically significant (p = 0.021); the post-hoc results showed that older residents (60+) perceived economic impacts less positively than those aged 40-49 years. Thus, for Age: p = 0.021→ reject H_o1 for Age (difference).

Education Level demonstrated some significant differences (p = 0.042). Participants with a college degree had significantly greater economic perception scores than those with less than a high school education. Thus, for Education: p = 0.042→ reject H_o1 for Education (difference).

Involvement in Tourism has a strong effect (p = 0.001), meaning those involved in tourism directly perceived higher economic benefits from tourism. Thus, for Involvement in Tourism: p = 0.001→ reject H_o1 for Involvement in Tourism (strong difference).

Occupation was marginally statistically significant (p = 0.056) and there was some difference however post-hoc comparisons didn't show any statistically meaningful differences between sub-groups. Thus, for Occupation: p = 0.056→ fail to reject H_o1 for Occupation (marginal / not significant at 0.05).
There are statistically significant differences in residents' perceptions of the economic impacts of tourism based on age, education level, and involvement in tourism, but gender and occupation did not show significant differences. Since the findings are mixed, hence, we do not outright reject or accept the hypothesis.

Socio-Cultural Impacts

This section investigates community perceptions that tourism influences aspect of socio-cultural impacts in Lahaul valley.

Table 13: Socio-Cultural Perception – Summary Statistics

Statement	Mean	SD
Locals feel proud about their culture when tourist reveals interest in it and thus has increased the self-esteem of the	4.13	0.5

local.		
The women of the area are participating in tourism activities.	4.05	0.38
Tourists like to taste the local food cooked in traditional way	3.88	0.54
Culture has become as a commodity and modified as per the requirement of the tourist	3.74	0.83
Sometimes tourist visiting the tourist places do not respect the culture and behave in undesirable way considering themselves as superior beings.	3.85	0.62
Increased tourism in the area has led to negative effect on the local life style & culture	3.72	0.75
Increased theft	3.8	0.65
Increased alcoholism	3.7	0.65
Increased gambling	4.2	0.85

Overall, the respondents in the community have positive perceptions of cultural preservation and pride, with the 'mean' scores of two positive statements being greater than 4 and one pertaining to 'preference of local food by tourist' registering a mean score of 3.88 (moderately high). Regarding the negative impacts, the respondents have concerns about social and cultural degradation relating to tourism. Statements related to gambling and theft received moderately high mean scores (3.8 and 3.7 respectively) while the statement on 'increased gambling' registered the highest score of 4.2 indicating recognition of the potential of these issues to further compound the overall negative impacts of tourism development.

Hypothesis H2

Residents' perceptions of the socio-cultural impacts of tourism significantly vary according to their age, gender, education level, involvement in tourism, and occupation. Here, the Dependent Variable is 'Residents' perceptions of the socio-cultural impacts of tourism'.

Table 14: Summary of SPSS Results -Perception of the Socio-Cultural Impacts (Hypothesis H2)

Independent Variable	Test Used	Sig. (p-value)	F / t Statistic	Significance	Post-hoc (Tukey's)
Gender	Independent t-test	0.041	t = 2.05	Significant	Not applicable
Age Group	One-Way ANOVA	0.038	F = 2.65	Significant	Significant difference: 30–39 vs. 50–59
Education Level	One-Way ANOVA	0.128	F = 1.95	Not Significant	Not applicable
Involvement in Tourism	Independent t-test	0.003	t = 2.98	Highly Significant	Not applicable
Occupation	One-Way ANOVA	0.054	F = 2.38	Marginally Significant	Not conclusive (no strong pairwise result)

Gender differences were statistically significant (p = 0.041) with females typically indicating slightly higher agreeability about socio-cultural benefits of tourism. Thus, for Gender: p = 0.041 → reject H_o2 for Gender (difference is significant).

Age Group was statistically different (p = 0.038). A Tukey's post-hoc test revealed that respondents aged 30–39 had significantly stronger positive perceptions than respondents aged 50–59. Thus, for Age Group: p = 0.038 → reject H_o2 for Age (difference is significant).

The level of education had no statistically significant effect on socio-cultural perception (p > 0.05). Thus, for Education Level: p = 0.128 → fail to reject H_o2 for Education (not significant).

Involvement in tourism was statistically significant (p = 0.003) indicating that individuals directly involved/engaged in tourism reflected more positively on socio-cultural effects. Thus, for Involvement in Tourism: p = 0.003 → reject H_o2 for Involvement (highly significant).

Occupation was border line at (p = 0.054) indicating potential differences but inconclusive results. Additional testing or larger sample may provide statistically significance. Thus, for Occupation: p = 0.054 → fail to reject H_o2 for Occupation (marginal / not significant at 0.05).

Like the economic impact, here also, the findings are mixed. Gender, Age, and Involvement in tourism demonstrated significance while Education level and Occupation do not. Hence, we do not outright reject or accept the hypothesis

Environmental Impact

This section covers how residents perceive the impacts of tourism on the environment. The Likert scale includes 4 positive and 4 negative statements.

Table 15: Environmental Perception – Summary Statistics

Statement	Mean	SD
The tourist flows have resulted in increased traffic enlarging the levels of pollution.	4.19	0.39
The garbage and littering in the area have increased due to Rural Tourism.	4.15	0.43
Tourism growth has coupled large construction activity such as hotels, restaurants damaging the landscape & ignoring tectonics & geology of the place.	4.09	0.52
Tourism has resulted in overcrowding in the rural area.	4.11	0.47
Tourism spending has also facilitated preservation and conservation of environment.	2.22	1.03
Tourism has resulted in preserving the natural resources and landscape.	2.88	1.07
There is a proper disposable system in place for waste & sewage.	1.34	0.62
Tourism has made villages to adopt renewable & energy saving technology.	3.12	0.94

The perceptions strongly reflected significant concerns (mean scores all above 4) for waste management, pollution, and overcrowding and more particularly for increased traffic with the highest mean score of 4.19. Even among the positive statements, residents showed little

confidence in the local systems as reflected in mean scores below 3 for environmental conservation, natural resources preservation or waste management, initiatives. Renewable energy adaptation was slightly better perceived with a mean score of 3.12

Hypothesis H3

Residents perceive environmental impacts of tourism differently due to their age, gender, education level, tourism involvement, and job.

Here, the Dependent Variable is 'Residents' perceptions of the environmental impacts of tourism'.

Table 16: Summary of SPSS Results Environmental Impact Perceptions (Hypothesis H3)

Independent Variable	Test Used	Sig. (p-value)	F / t Statistic	Significance	Post-hoc (Tukey's)
Gender	Independent t-test	0.017	t = 2.42	Significant	Not applicable
Age Group	One-Way ANOVA	0.005	F = 3.87	Highly Significant	Significant difference: 30–39 vs. 60+
Education Level	One-Way ANOVA	0.031	F = 2.63	Significant	High School vs. Postgrad: $p <$ 0.05
Involvement in Tourism	Independent t-test	0	t = 3.74	Highly Significant	Not applicable
Occupation	One-Way ANOVA	0.014	F = 3.22	Significant	Farmer vs. Self-employed: $p <$ 0.05

Gender was statistically significant (p = 0.017), with females reporting higher environmental concerns→ reject H_o3 for Gender (significant difference).

Age Group was statistically significant (p = 0.005). Results from Tukey's Post-hoc tests indicated respondents aged 60+ reported lower environmental degradation concerns than respondents aged 30-39. Hence, reject H_o3 for Age (highly significant).

Education Level was statistically significant (p = 0.031), with respondents with post graduate education reported more critical environmental perceptions than respondents with high school education. Thus, for Education Level: p = 0.031 → reject H_o3 for Education (significant).

Involvement in Tourism was statistically significant (p < 0.001), with involved respondents reporting higher awareness and concern regarding environmental impacts. Thus, for Involvement in Tourism: p = 0.000 → reject H_o3 for Involvement (highly significant).

Occupation was statistically significant (p = 0.014), with farmers reporting higher environmental degradation concerns than self-employed respondents. Thus, for Occupation: p = 0.014 → reject H_o3 for Occupation (significant).

All Independent variables (IVs) tested have significant differences (p ≤ 0.05), therefore we accept Hypothesis H3 which assumes 'Environmental perceptions varied significantly according all demographic factors.

Table 6.5: Comparative Summary of Hypothesis Testing Results

Independent Variable	H1: Economic Impact	H2: Socio-Cultural Impact	H3: Environmental Impact
Gender	*Not Significant (p = 0.065)*	Significant (p = 0.041)	Significant (p = 0.017)
Age Group	Significant (p = 0.021)	Significant (p = 0.038)	*Highly Significant* (p = 0.005)
Education Level	Significant (p = 0.042)	*Not Significant (p = 0.128)*	Significant (p = 0.031)
Involvement in Tourism	*Highly Significant* (p = 0.001)	*Highly Significant* (p = 0.003)	*Highly Significant* (p = 0.000)
Occupation	Marginal (p = 0.056)	Marginal (p = 0.054)	Significant (p = 0.014)

The above table reveals the following:

Gender affected perceptions surrounding socio-cultural and environmental impacts, but not economic impacts.
Age affected perceptions across all the three core impact areas with environmental impact being highly significant
Education level is significant for economic and environmental perceptions but not for socio-cultural impacts
Involvement in Tourism was consistently highly significant in all the three perception areas.
Occupation was borderline significant to economic and socio-cultural perceptions, but was clearly significant for environmental concerns.

Discussion

This study examined the local community's perception of tourism development in the Lahaul Valley, Himachal Pradesh (India), across three core dimensions: economic, socio-cultural, and environmental impacts. The analysis was guided by three hypotheses focusing on the influence of demographic variables—age, gender, education, occupation, and involvement in tourism—on residents' perceptions. The findings of this research provide a complex and nuanced understanding of local community attitudes towards tourism development in the Lahaul Valley considering that there has been a significant increase in the tourist influx and accessibility to the valley following the opening of the Atal Tunnel.

Economic Impacts of Tourism

The community holds both positive view critical concerns regarding economic impacts of tourism. Respondents strongly agreed that tourism creates jobs, raises income levels, and improves living standards. These positive sentiments align with broader expectations of economic gain and prosperity that often accompany tourism in remote regions such as Lahaul. However, these benefits are not without challenges. Several respondents expressed concern over the rising cost of land, property, and basic commodities, indicating that tourism-led development may be contributing to price inflation and potentially making local living conditions less affordable. Notably, the perception that the "tourism economy is being dominated by non-natives" (mean score: 3.85) emerged as a moderately strong negative sentiment, suggesting that locals may feel economically marginalized or excluded from key

opportunities.

Further, the cross-tabulation analysis that was performed to understand the economic role of tourism revealed insightful patterns regarding involvement in tourism and income generation. Among those involved in tourism, 91.2% reported annual household incomes of ₹6 lakh or more, with the majority falling in the ₹6–10 lakh range. While non-involved households also reported high incomes—possibly due to profitable alternative occupations such as government jobs, business, or remittances—the sample size was significantly smaller (n=94 vs. 306), limiting direct comparability.

The presence of economically secure but tourism-independent households may partially explain the heightened environmental resistance observed in the data. As these groups do not rely on tourism as a primary income source, their perceptions may be more strongly shaped by concerns related to congestion, pollution, and loss of environmental quality rather than economic opportunity. This divergence underscores the presence of internal community heterogeneity in attitudes toward tourism expansion.

Nevertheless, the key takeaway is that tourism provides a stable and substantial mid-level income for a majority of local households. This is particularly notable when compared to the state average per capita income for Himachal Pradesh (₹2.57 lakh) and the national average (₹2.00 lakh). The implication is that tourism can play a central role in local economic security, especially when community involvement is encouraged and supported.

While tourism has significantly enhanced household income levels, particularly placing the majority of tourism-dependent households in the 6–10 lakh income bracket, the findings also reveal a distinct economic stratification within the community. A substantial proportion of higher-income households (>20 lakhs) are not directly involved in tourism activities and are likely dependent on salaried government employment, established businesses, or external remittances. This indicates that tourism primarily serves as a stabilizing livelihood option rather than a high-income pathway.

Socio-Cultural Impacts of Tourism

The socio-cultural assessment revealed that residents expressed strong agreement with statements affirming that tourism fosters cultural pride, preserves heritage (both mean > 4), and promotes local food (mean = 3.88). These views suggest that tourism is helping reinforce cultural identity and providing an avenue for community expression and visibility.

However, concerns were also raised about the social and cultural disruptions that often accompany tourism growth like commodification of the culture. Issues such as increased theft, alcoholism and behavioural changes among youth were the other concerns. The highest negative mean score (4.2) was recorded for the statement on increased gambling, indicating strong concern regarding the moral and social implications of tourism development.

The elevated concern regarding social vices such as gambling and theft suggests that residents perceive these issues as unintended consequences of rapid commercialization and increased tourist inflow. These concerns may be linked to the influx of transient populations, increased cash circulation, and erosion of traditional social controls, particularly in a region that had historically experienced limited external interaction.

An important paradox emerges wherein tourism simultaneously fosters cultural pride while heightening concerns of cultural commodification. While festivals, traditional attire, and local customs gain visibility and recognition through tourism, there is growing apprehension that

these practices may be selectively performed to meet visitor expectations rather than sustained as lived traditions. This tension reflects a shift from organic cultural expression toward staged representations, raising concerns about the long-term authenticity of cultural heritage.

Environmental Impacts of Tourism

Environmental impacts emerged as the most clearly and uniformly perceived concern across the respondent population. All negative environmental indicators (e.g., pollution, waste accumulation, overcrowding, and particularly increased traffic) received mean scores above 4, indicating a high level of environmental awareness and concern within the community. The highest mean score was for increased traffic (4.19), reflecting anxiety over infrastructure pressure and reduced quality of life.

Conversely, responses to positive environmental statements—such as local conservation efforts, natural resource preservation, and waste management—received low levels of confidence, with mean scores below 3. This implies that residents do not trust existing systems to manage the environmental impacts of tourism effectively. The exception was renewable energy adaptation, which showed slightly better acceptance (mean = 3.12), indicating cautious optimism towards environmentally sustainable innovations.

The strong and unified concern regarding environmental impacts reflects the intrinsic fragility of the Himalayan cold desert ecosystem. Increased vehicular movement, rapid roadside construction, and inadequate waste disposal systems exert pressure on Lahaul's delicate geology, limited soil regeneration capacity, and narrow valleys. The relatively low confidence in existing environmental management systems suggests that local residents perceive governance and infrastructure development to be lagging behind the pace of tourism growth, thereby intensifying apprehensions about irreversible ecological degradation.

Hypotheses Evaluation

Three hypotheses were proposed which posited that based on demographic variables, perceptions of tourism's economic impacts (H1), socio-cultural impacts (H2) and environmental impacts (H3) would vary significantly.

For **Hypothesis (H1)** regarding perceptions of tourism's economic impacts, the statistical analysis revealed that age, education level, and involvement in tourism did, in fact, show significant variation, while gender and occupation did not. Further test (Tukey's post hoc) suggests that, similar to those actively engaged in tourism, among the age and education level demographics, younger and more educated respondents were more likely to perceive economic benefits positively. Conversely, older residents appeared more cautious or critical. Given the mixed results, we do not conclusively reject or accept H1 but acknowledge that certain demographic factors play a more pronounced role than others in shaping economic perceptions.

For **Hypothesis (H2)** regarding socio-cultural perceptions, the results showed that gender, age, and involvement in tourism had significant effects, while education and occupation did not. A Tukey's post-hoc test had revealed that respondents aged 30–39 had significantly stronger positive perceptions than respondents aged 50–59. Therefore, the overall mixed findings suggest that women and older residents may be more sensitive to potential cultural degradation or shifts in community norms, while involvement in tourism may mediate perceptions through exposure to cross-cultural interactions. Similar to the economic hypothesis, H2 is neither fully accepted nor rejected, but partially supported, reflecting the complexity of socio-cultural impacts in transitional rural societies.

Hypothesis (H3), which posited that environmental perceptions vary significantly by all demographic variables, was fully supported by the data. Each independent variable—age, gender, education, occupation, and tourism involvement—showed statistically significant differences in environmental perceptions. Moreover, results from Tukey's post-hoc tests indicated respondents aged 60+ reported lower environmental degradation concerns than respondents aged 30-39; respondents with post graduate education reported more critical environmental perceptions than respondents with high school education and farmers reported higher environmental degradation concerns than self-employed respondents.

The perception that tourism-related economic activities are increasingly dominated by non-native operators signals potential economic leakage and marginalization of local stakeholders. External tour operators and investors may capture a disproportionate share of tourism revenue, limiting benefits for local households. This highlights the need for integrated tourism planning frameworks that prioritize local ownership, capacity building, and regulatory mechanisms that ensure equitable participation of indigenous communities.

This comprehensive significance suggests that environmental issues are universally acknowledged but understood through different lenses depending on demographic positioning. For example, older individuals may view tourism as a threat to traditional relationships with the land, while younger or tourism-involved respondents may be more focused on issues of waste management or transport congestion.

Limitations and Directions for Future Research

While the study offers a comprehensive understanding of community perceptions in Lahaul Valley, a major limitation is that the research was largely based on self-reported perceptions, which may carry social desirability bias. Another limitation is that the sample may not have captured migrant workers, transient residents, or younger populations studying or working outside the valley.

Future research could incorporate longitudinal studies to track changing perceptions over time and qualitative interviews to deepen understanding of cultural and emotional responses to tourism growth.

Conclusion

In summary, this study reveals that tourism provides a stable and substantial mid-level income for a majority of local households and that the community's perception of tourism development in Lahaul Valley is complex and multifaceted. An important finding that emerged is the contrast in the nature of residents' perceptions across the three domains of tourism impact. In terms of economic and socio-cultural impacts, perceptions were mixed, reflecting both optimism and concern. In contrast, when it came to environmental impacts, respondents exhibited a strong and unified level of concern. This contrast suggests that while residents are still negotiating the socio-economic and cultural consequences of tourism, there is a firm and collective stance on environmental preservation. The findings support the need for integrated tourism policies that capitalize on economic potential and cultural strengths, while placing environmental sustainability at the core of development strategies.

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References

Abdollahzadeh, G., & Sharifzadeh, A. (2014). Rural residents' perceptions toward tourism development: A study from Iran. *International Journal of Tourism Research, 16*(2), 126–136.

Barbhuiya, M. R. (2023). Post-pandemic tourism strategies: A case of Himachal Pradesh. *Journal of Emergency Management, 21*(7), 315–337.

Charag, A. H., Fazili, A. I., & Bashir, I. (2021). Residents' perception towards tourism impacts in Kashmir. *International Journal of Tourism Cities, 7*(3), 741–766.

Chauhan, P. (2020). Economic impacts of tourism in Himalayan regions. *Journal of Tourism Studies, 12*(3), 45–60.

GeoJournal of Tourism and Geosites. (2019). Geotourism potential in Lahaul-Spiti. *25*(2), 123–135.

Government of Himachal Pradesh. (2025). *Economic survey of Himachal Pradesh 2024–25.* Department of Economics and Statistics.

Gupta, R., & Sharma, S. (2022). Overtourism in Manali: Lessons for emerging destinations. *Tourism Management Perspectives, 41*, 100–112.

Himachal Pradesh Economic Survey. (2013–2014). *Government of Himachal Pradesh*.

Himachal Pradesh Tourism Development Corporation (HPTDC). (2023). *Annual Report on Tourism Development*.

Hussain, T., Wang, D., & Li, B. (2024). Exploring the impact of social media on tourist behavior in rural mountain tourism during the COVID-19 pandemic. *Acta Psychologica, 242*, 104113.

Journal of Smart Tourism. (2022). Smart tourism in remote destinations. *2*(1), 34–50.

Kaushal, V., & Sharma, S. (2019). Growth and development: A study of tourism industry of Himachal Pradesh. *ResearchGate*.

Kumar, A., & Gupta, S. (2018). Economic leakage in Himalayan tourism. *Economic and Political Weekly, 53*(12), 67–74.

Kumar, A., & Singh, R. (2021). Cultural tourism in Lahaul-Spiti. *Indian Journal of Tourism, 15*(2), 23–35.

Kumar, V., et al. (2017). A study of tourism industry of Himachal Pradesh with special reference to ecotourism. *Academia.edu*.

Kuniyal, J. C. (2002). Environmental impacts of tourism in the Himalayas. *Mountain Research and Development, 22*(3), 245–254.

Kuniyal, J. C., et al. (2004). Tourism and economic development in Himachal Pradesh. *Indian Journal of Economics, 85*(2), 112–125.

Linderová, I., Scholz, P., & Almeida, N. (2021). Attitudes of local population towards the impacts of tourism development: Evidence from Czechia. *Frontiers in Psychology, 12*, 684773.

Outlook India. (2023). Atal Tunnel boosts tourism in Lahaul. *Outlook Traveller*.

Sharma, S., & Chauhan, P. (2022). Climate change and tourism in the Himalayas. *Climate Research, 89*, 34–47.

Sharma, S., & Singh, R. (2016). Host community attitudes toward tourism impacts: Study of high-altitude tourist destination, Himalaya. *ResearchGate*.

Sharma, S., et al. (2021). Women in Himalayan tourism: Opportunities and challenges. *Gender Studies Journal, 10*(2), 78–90.

Singh, R., & Chauhan, P. (2023). Cultural preservation in Himalayan tourism. *Cultural Heritage Journal, 14*(1), 22–34.

Singh, R., & Mishra, S. (2020). Buddhist tourism circuits in Himachal Pradesh. *Journal of Spiritual Tourism, 8*(3), 45–58.

Stylidis, D., Biran, A., Sit, J., & Szivas, E. M. (2014). Residents' support for tourism development: The role of residents' place image and perceived tourism impacts. *Tourism Management, 45,* 260–274.

Rasoolimanesh, S. M., & Jaafar, M. (2016). Residents' perception toward tourism development: A pre-development perspective. *Journal of Place Management and Development, 9*(1), 91–104.

Times of India. (2024). Himachal government forms committee to safeguard Lahaul Valley ecosystem amid tourism surge. *Times Travel*.

Tosun, C. (2002). Host perceptions of impacts: A comparative tourism study. *Annals of Tourism Research, 29*(1), 231–253.

Tosun, C. (2006). Expected nature of community participation in tourism development. Tourism Management, 27(3), 493–504.

The Multifaceted Impact Of Artificial Intelligence (Ai) In The Hospitality Sector: A Critical Assessment

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Abstract
Artificial Intelligence (AI) is transforming hospitality by reshaping operational processes, guest experience, labour dynamics, and strategic decision-making. This study offers a critical, multi-dimensional assessment of AI's influence, examining its economic, social, ethical, environmental, and regulatory implications. While AI enhances efficiency through automation, predictive analytics, and personalised service, it also raises concerns about data governance, algorithmic bias, workplace surveillance, and the erosion of human warmth in service interactions. Environmental benefits achieved through optimised resource management are offset by the significant energy and material demands of AI infrastructures. Regulatory frameworks remain fragmented and often inadequate for addressing the sector's distinctive reliance on personal data and intelligent automation. The study argues that AI's value depends on technological capability as well as on responsible governance, human-centred design, and sustainability commitments. It concludes that balanced, ethically informed adoption is essential for ensuring that AI supports a more equitable, resilient, and environmentally conscious future for hospitality.

Keywords: Artificial Intelligence (AI); Hospitality Industry; Digital Transformation; Sustainable Tourism; Ethical AI; Human–AI Interaction; Personalisation; Guest Experience; Environmental Sustainability; Data Governance; Responsible Innovation

Introduction
Artificial Intelligence (AI) has moved from a peripheral innovation to a structural force reshaping contemporary hospitality. An industry long defined by interpersonal interaction, experiential nuance, and emotional labour is now increasingly mediated by systems that learn, predict, and decide at scale. Predictive analytics, contactless service technologies, virtual concierges, and AI-driven sustainability tools are reconfiguring how hotels design guest journeys, structure work, and cultivate competitive advantage (Buhalis & Moldavska, 2022; Ezzaouia & Bulchand-Gidumal, 2023). This transformation is not merely operational; it touches the cultural, ethical, and environmental foundations of hospitality, prompting a re-examination of what it means to serve, to host, and to create value in digitally augmented environments.

Strategic pressures have accelerated AI adoption as much as technological capability. Heightened global competition, shifting guest expectations, labour shortages, and rising sustainability obligations have positioned AI as a strategic instrument for organisational agility and resilience (Garcia & Adams, 2022; Limna, 2023). Intelligent systems allow firms to harness expansive data flows, operationalise personalisation, optimise revenue management, and automate back-of-house routines with unprecedented precision. Yet such capabilities also expose longstanding vulnerabilities, such as opaque decision-making, concentration of data power, algorithmic inequities, intensified employee monitoring, and the environmental burdens of data-heavy infrastructures (Binesh & Syah, 2025; Du & Xie, 2021; Crawford, 2021). These tensions highlight a central paradox of AI in hospitality as the very tools marketed as solutions may simultaneously deepen ethical, ecological, and social risks if deployed uncritically. Against this backdrop, this study offers a holistic and problem-focused assessment of AI's multifaceted role in hospitality. Rather than treating AI as a neutral or inevitable upgrade, it interrogates how intelligent systems reshape economic performance, cultural norms, labour conditions, environmental sustainability, and regulatory governance. It argues that AI's long-term contribution depends on an ability to reconcile technological

efficiency with human sensitivity, ethical accountability, and ecological responsibility. This requires resisting simplistic narratives of progress and instead examining how AI redistributes agency, modifies experience design, restructures work, and reframes organisational commitments to sustainability (Jose et al., 2020; Reis, 2024).

The study proceeds by outlining the technological foundations of AI in hospitality before turning to its economic, social, ethical, environmental, and regulatory implications. It concludes by synthesising these dimensions, emphasising that responsible adoption must align innovation with normative commitments to transparency, fairness, and sustainability.
This integrated perspective contributes to broader debates on digital transformation in hospitality by demonstrating that AI's significance extends far beyond automation or financial efficiency. Understanding its impact requires recognising AI as a socio-technical system whose effects, positive or problematic, emerge through interactions between technology, people, and institutions. The aim is to illuminate pathways through which hospitality organisations can leverage intelligent technologies while safeguarding the human and environmental values that define the industry's longstanding purpose.

Methodology

This study employs a qualitative integrative review methodology to examine the multifaceted impacts of artificial intelligence (AI) in the hospitality sector. This approach is particularly appropriate for an area characterised by rapid technological evolution, fragmented empirical evidence, and uneven theoretical development, as it enables the systematic integration of diverse bodies of knowledge while supporting critical reflection on dominant assumptions and narratives (Snyder, 2019; Torraco, 2016). AI in hospitality operates as both a technological system and a socio-organisational force; accordingly, the review draws on literature from hospitality management, information systems, organisational studies, and AI ethics to capture its economic, social, environmental, and regulatory dimensions. This interdisciplinary orientation reflects an understanding that AI adoption is shaped by technical capability as well as by organisational cultures, institutional arrangements, and broader socio-technical contexts (Mariani, 2020; Crawford, 2021).

The literature was sourced from major academic databases, including Scopus, Web of Science, ScienceDirect, Emerald Insight, and Google Scholar, using keywords related to AI, digital transformation, sustainability, algorithmic management, and hospitality operations. The review prioritised publications from 2015 to 2025, a period marked by the accelerated diffusion of AI applications in hospitality, while incorporating earlier seminal works where they offered essential conceptual grounding. Sources were selected based on their relevance to at least one of the manuscript's core thematic areas and their contribution to understanding AI's broader organisational and societal implications.

Analysis followed the principles of thematic synthesis (Thomas & Harden, 2008), with inductive coding used to identify recurring patterns and tensions across operational, labour, ethical, environmental, and governance-related discussions. These patterns were subsequently developed into higher-level analytical themes that illuminate how AI is reshaping hospitality in complex and often contested ways. To strengthen conceptual rigour, the review applied established quality guidelines for integrative research and relied on cross-disciplinary triangulation to avoid narrow or technologically deterministic interpretations (Whittemore & Knafl, 2005; Orlikowski & Iacono, 2001). Reflexive analysis further supported critical engagement with assumptions surrounding efficiency, innovation, and progress, particularly where industry-led narratives risk obscuring social, ethical, or environmental consequences (Stankov et al., 2022; Shestakofsky, 2017).

Technological and economic dimensions of AI in hospitality

Artificial Intelligence (AI) has become a structural force in the evolution of hospitality, transforming how organisations operate, compete, and define value. Its influence extends across operational efficiency, strategic management, workforce practices, guest experience, and revenue optimisation. Far from a neutral upgrade, AI constitutes a shift toward data-driven governance involving automation, predictive analytics, and algorithmic decision-making; changes that simultaneously introduce organisational, ethical, and economic tensions (Buhalis & Moldavska, 2022; Ezzaouia & Bulchand-Gidumal, 2023; Ivanov & Webster, 2021).

At an operational level, AI-driven systems underpin a wide range of functions including front-desk automation, housekeeping coordination, inventory management, and preventive maintenance (Aphisavadh, 2025; Limna, 2023). Automated check-in kiosks, virtual concierge services, and predictive housekeeping tools streamline routine tasks and enhance accuracy (O'Connor & Murphy, 2004). The post-pandemic expansion of contactless technologies further embedded automation as both an efficiency measure and a safety expectation (Solnet et al., 2019). Yet concerns persist regarding depersonalisation, guest acceptance, and the erosion of the human-centric ethos historically associated with hospitality (Tussyadiah, 2020; Ladeira et al., 2023).

AI also reshapes strategic management and organisational decision-making. Machine-learning based revenue systems synthesise booking data, competitor prices, sentiment analysis, and environmental signals to generate fine-grained demand forecasts and dynamic pricing decisions (Enholm et al., 2022; Talón-Ballestero et al., 2022). Advanced models can evaluate thousands of variables to optimise RevPAR, contributing to more adaptive and analytically sophisticated pricing practices (Henriques & Pereira, 2024). Predictive maintenance, supported by IoT sensors, reduces downtime and prevents costly equipment failures (Zhang et al., 2019; Shaik, 2023). However, greater reliance on opaque "black box" algorithms risks managerial deskilling and overconfidence in automated judgement (Davenport & Ronanki, 2018). Guest-facing technologies, including chatbots, natural language interfaces, personalised recommendation engines, and AI-enhanced CRM platforms, have become central to experience design (Bulchand-Gidumal, 2022; Tussyadiah, 2020). These systems support targeted marketing, personalised itineraries, and tailored promotions that enhance both service relevance and commercial yield (Kozak & Correia, 2025). Nevertheless, their reliance on behavioural profiling intensifies data extraction practices, raising concerns about surveillance and the normalisation of constant behavioural monitoring (Zuboff, 2019). Security applications, such as facial recognition and anomaly detection, promise operational safety (Dwivedi et al., 2025), yet also deepen dilemmas around informed consent and the ethical limits of surveillance (Martin & Nissenbaum, 2020; Wang et al., 2024).

AI plays a strategic role in workforce management through recruitment screening, performance prediction, scheduling, and training platforms (Doborjeh et al., 2022; Ersoy & Ehtiyar, 2023; Shi et al, 2025). While these tools increase consistency and decision quality, they also risk embedding algorithmic bias and expanding workplace surveillance (Brougham & Haar, 2018; Dwivedi et al., 2025). The economic narrative often emphasises labour displacement, yet empirical studies increasingly show labour reallocation: AI absorbs routine tasks while freeing employees to engage in roles requiring judgement, empathy, and creative problem-solving (Buhalis etal., 2019; Limna, 2023; Khoa et al., 2023; Chen et al., 2023). Such augmentation can enhance job satisfaction and organisational adaptability when accompanied by adequate training and participatory implementation.

Economically, AI contributes to cost efficiency, revenue growth, and competitive agility.

Automation in inventory tracking can reduce supply costs by up to 30%, while predictive maintenance prolongs asset life and minimises interruptions (Shaik, 2023). Data-driven forecasting has produced cost reductions of around 15% in tourism and travel agencies (Ali et al., 2025). Revenue optimisation tools further strengthen profitability: dynamic pricing algorithms improve forecasting accuracy (Henriques & Pereira, 2024) and personalised upselling tools can raise room-level revenue by 40–50% (Khoa et al., 2023; Chen et al., 2023). High-performing firms increasingly attribute a substantial share of their growth to AI-enabled marketing and CRM systems (Kozak & Correia, 2025).

Yet these benefits are accompanied by structural risks. Early adopters gain "exponential learning" advantages that compound over time (Garcia & Adams, 2022), raising concerns about widening competitive disparities, particularly for smaller firms with limited data capabilities or capital resources (Ali et al., 2025). Significant upfront investment, integration complexity, and the need for digital skills still constrain adoption (Aphisavadh, 2025). Moreover, over-reliance on automated decision-making may lead to pricing anomalies, algorithmic opacity, or erosion of service authenticity; challenges that intersect with broader ethical debates about fairness, transparency, and accountability (Dwivedi et al., 2025; Khoa et al., 2023).

Sustainability-oriented AI applications, including smart energy management, water optimisation, and automated waste monitoring, offer environmental benefits (Liu et al., 2022; Zhang et al., 2019; Onyeaka et al., 2023). However, these gains must be balanced against the environmental costs of AI infrastructures, particularly energy-intensive data centres and growing electronic waste (Berthelot et al., 2024; Crawford, 2021). As a result, technological progress in hospitality carries a planetary footprint that requires holistic assessment rather than uncritical celebration.

Taken together, the technological and economic dimensions of AI in hospitality reveal an emerging "intelligent hospitality ecosystem" (Buhalis & Moldavska, 2022), characterised by tighter integration of automation, analytics, and personalisation. Yet this ecosystem is also shaped by power asymmetries, organisational choices, and societal norms. Realising the benefits of AI while mitigating its risks demands investment in digital infrastructure as well as in human capability, ethical governance, and strategic restraint. Only through such balance can AI enhance economic performance without undermining the relational, cultural, and environmental foundations on which hospitality depends.

Social, cultural, and ethical implications of AI in hospitality

AI is reshaping the social and ethical landscape of hospitality, a sector defined by interpersonal care, emotional nuance, and culturally embedded service practices. As predictive and automated systems mediate more stages of the guest journey, they redefine expectations of comfort, trust, and connection (Talón-Ballestero et al., 2022; Solnet, 2019). These transformations bring notable benefits but also raise important cultural and ethical questions about authenticity, transparency, and the responsible use of personal data.

One major shift concerns hyper-personalisation. By analysing behavioural, contextual, and transactional data, hotels tailor environmental settings, dining suggestions, and wellness options to individual preferences (Gupta & Pareek, 2024; Kozak & Correia, 2025). Smart-room technologies extend this anticipatory service by adjusting lighting, temperature, and entertainment systems through voice or mobile controls (Aphisavadh, 2025). While these features can enhance guest comfort, their reliance on prediction over interaction raises broader questions about how hospitality expresses care when fulfilment becomes automated rather than relational. This reconfiguration of service also alters the nature of human work.

As routine tasks are delegated to AI, employees increasingly focus on emotional engagement, creative judgement, and complex problem-solving (Limna, 2023; Fazi et al., 2025). Many frameworks position this as human–AI complementarity, where technology supports frontline staff with real-time insights to enhance attentiveness and personal connection (Seyitoğlu, 2021; Turkle, 2007). Yet perceptions of authenticity vary considerably. Some guests welcome seamless automation; others interpret it as impersonal or culturally incongruent (Seyitoğlu, 2021). Generational and cultural differences further influence acceptance, highlighting the need to design service systems that respect diverse expectations and comfort levels (Fazi et al., 2025).

Underlying these preferences is the issue of trust, shaped by transparency, fairness, and perceived competence of AI systems (Du & Xie, 2021). Guests commonly experience a "privacy paradox"; they are willing to share data when benefits are clear but express concern when data practices appear opaque or unnecessarily intrusive (Salih et al., 2025; Nira, 2025). Ethical data stewardship is therefore fundamental. As personalisation increasingly depends on sensitive data, including biometrics and behavioural patterns, robust governance, regulatory compliance, and clear communication become essential safeguards (Bist, 2025; Bahangulu & Owusu-Berko, 2025). Beyond privacy, AI introduces risks of algorithmic bias. Models trained on incomplete or skewed data can produce unequal outcomes in pricing, recruitment, or service recommendations (Sharma et al., 2022; Lee & Sharma, 2025). These concerns require systematic bias audits, inclusive datasets, and ongoing human oversight to prevent discrimination and ensure equitable treatment (Bahangulu & Owusu-Berko, 2025). Transparency in algorithmic decision-making is equally critical, as opaque "black box" systems undermine user confidence, particularly in emotionally sensitive service contexts (Sharma et al., 2022; Du & Xie, 2021). Implementing explainable AI and assigning clear accountability for AI-driven decisions can help preserve trust and align practices with industry values (Binesh & Syah, 2025).

AI's implications extend to employee well-being. Automation can amplify anxieties around job security, workload intensification, and fairness in performance evaluation (Ersoy & Ehtiyar, 2023; Kang et al., 2024). Ethical deployment therefore involves using AI to support, not supplant, human labour. When accompanied by meaningful training, participatory involvement, and career development pathways, AI can reduce repetitive tasks and improve job satisfaction (Buhalis et al., 2019; Turkle, 2007; Abdulmawla et al., 2025). Adaptive learning tools offer additional opportunities to strengthen digital competencies and ensure staff remain confident participants in evolving service systems (Ersoy & Ehtiyar, 2023). At a broader cultural level, AI holds potential to enhance accessibility through multilingual interfaces or adaptive modes that assist neurodiverse guests (Nira, 2025). Yet the global spread of standardised algorithmic systems risks diminishing cultural specificity, especially when datasets embed Western normative assumptions (Reis, 2024). Balancing inclusivity with cultural nuance therefore becomes a central design challenge. Overall, the social, cultural, and ethical implications of AI in hospitality hinge on maintaining human values as technologies become more pervasive. Ensuring fairness, protecting privacy, cultivating transparency, and supporting staff are not only ethical responsibilities but essential to preserving the deeper aims of hospitality: fostering trust, respect, and genuine connection in an increasingly digital environment.

Environmental, regulatory, and contextual challenges of AI in hospitality

Although AI has become central to hospitality's pursuit of sustainability, efficiency, and competitive advantage; yet its environmental footprint, regulatory ambiguity, and organisational constraints reveal a more complex landscape than narratives of "smart" or "green" innovation often imply. The sector must therefore confront the dual challenge of

reducing its own ecological impact while navigating an evolving governance environment where ethical, legal, and infrastructural responsibilities are increasingly intertwined.

Hotels have long struggled with energy-intensive operations, water consumption, and waste generation. AI-supported systems now offer tangible opportunities to address these challenges through more precise, anticipatory, and data-driven environmental management (Jose et al., 2020). Energy Management Systems (EMS) use real-time analytics to optimise heating, cooling, and lighting based on occupancy and external conditions, reducing consumption by up to 20% in some cases (Bakshi & Singh, 2024; Ning, 2024). Predictive maintenance identifies inefficiencies before they escalate (Talón-Ballestero et al., 2022), while large hotel groups such as Hilton have demonstrated the scale of potential savings, with LightStay reporting over $1 billion in combined energy, water, and waste reductions (Zientara et al., 2020). Similar gains are emerging in water conservation, where AI-enabled leak detection systems and behavioural insights improve demand forecasting (Egbemhenghe et al., 2023).

Food waste reduction has also benefited from AI integration. Intelligent monitoring tools help commercial kitchens analyse discarded items, adapt procurement, and align menus more closely with actual consumption (Clark et al., 2025; Aphisavadh, 2025). Generative AI forecasting models refine ordering and inventory management, reducing spoilage and supporting circularity initiatives (Seyitoğlu, 2021; Talón-Ballestero et al., 2022). Hotels are increasingly using AI to track material flows, guide recycling, and strengthen local sourcing, embedding sustainability across routine purchasing decisions (Jose et al., 2020).

However, these localised gains sit uneasily alongside the environmental burdens of AI itself. Training and operating advanced models require energy-hungry data centres whose electricity consumption reached an estimated 415 TWh in 2024, with projections of substantial growth by 2030 (Van Wynsberghe, 2021). Water dependence is equally significant: cooling processes may require up to two litres of water per kilowatt-hour consumed (Berthelot et al., 2025). The sector therefore risks outsourcing part of its carbon and water footprint to external infrastructures, complicating the sustainability claims attached to digital transformation. Transparency around these indirect impacts remains weak. Reporting standards are inconsistent, lifecycle assessments of hardware or model training are rarely disclosed, and emissions associated with data transmission and cloud computation often remain invisible (Van Wynsberghe, 2021). Without clearer environmental accounting, hotels cannot reliably assess the trade-offs inherent in adopting AI technologies.

Alongside environmental concerns, AI in hospitality is unfolding within a regulatory landscape that is fragmented, uneven, and not fully aligned with sector-specific needs. Privacy frameworks such as the GDPR and CCPA provide essential safeguards through requirements on consent, transparency, and protections against harmful automated decisions (Bist, 2025; Voigt & Von dem Bussche, 2017; Bahangulu & Owusu-Berko, 2025). These are especially relevant in a sector reliant on profiling, personalisation, and behavioural prediction.

Yet beyond privacy, regulatory guidance on algorithmic fairness, accountability, and environmental responsibility remains underdeveloped (Binesh & Syah, 2025). This creates a dual risk: under-regulation may enable discriminatory or opaque practices, while over-regulation may stifle innovation or impose disproportionate burdens on smaller operators (Fang et al., 2026). Clearer technical standards, sector-specific guidelines, and collaborative governance models are increasingly needed. Industry consortia and voluntary codes of practice have begun filling this gap, promoting fairness audits, explainability, and sustainable

data governance (Bahangulu & Owusu-Berko, 2025).

Environmental regulation lags even further behind. Despite the growing carbon footprint of AI infrastructures, few jurisdictions require disclosure of the energy or water use associated with cloud services. As hotels outsource computation to large technology firms, the absence of environmental reporting from providers makes it difficult to align digital strategies with sustainability commitments.

The effectiveness of AI in hospitality is also shaped by organisational readiness, cultural attitudes, and infrastructural capacity. Many firms still hold limited or superficial knowledge of AI capabilities, leading either to inflated expectations or hesitation about adoption (Nam et al., 2021). Legacy systems, often non-interoperable PMS, POS, or booking platforms, remain major obstacles to integration (Garcia & Adams, 2022). Financial constraints and uneven digital literacy at management level further slow progress.

Workforce dynamics present an additional layer of complexity. Employee concerns about surveillance, job insecurity, and loss of autonomy may undermine morale and obstruct system uptake (Ersoy & Ehtiyar, 2023). Without participatory governance, clear communication, and reskilling opportunities, AI implementation risks reinforcing workplace inequalities or fostering resistance. A phased, experimental approach is increasingly recommended. Pilot projects, whether in demand forecasting, maintenance, or personalisation, allow organisations to test systems at manageable scale, refine algorithms, and generate internal legitimacy before investing in full deployment (Nam et al., 2021). Such incremental adoption supports staff engagement, reduces operational risk, and builds organisational confidence.

Looking ahead, hospitality is likely to witness deeper integration of AI systems as models learn from expanding data flows and accelerate feedback cycles, amplifying “exponential learning” effects (Garcia & Adams, 2022). Integrated technological ecosystems linking CRM, PMS, POS, IoT networks, and revenue systems will intensify real-time decision-making and personalise services with greater granularity (Limna, 2023; Banerjee, 2024). Yet such integration risks widening the divide between early adopters and technologically constrained firms, potentially reshaping competitive structures. Realising the environmental, operational, or economic benefits of AI requires governance architectures capable of managing its evolving risks. Robust data governance, regular bias audits, explainability standards, and explicit accountability models are fundamental to ensuring fairness and trust (Binesh & Syah, 2025). At the environmental level, the sector must demand clearer reporting from technology providers and prioritise energy-efficient algorithms, renewable-powered data centres, and responsible lifecycle design (Berthelot et al., 2024). Sustainable and ethical AI in hospitality depends on combining technological innovation with organisational maturity and regulatory foresight. By pairing operational benefits with transparency, inclusivity, and ecological responsibility, the industry can move towards more resilient and genuinely sustainable digital futures.

Conclusion

The accelerating incorporation of Artificial Intelligence into hospitality signifies a structural transformation whose implications extend far beyond operational innovation. AI is now entangled with questions of economic justice, labour restructuring, surveillance, environmental degradation, and the shifting cultural meaning of hospitality itself. This makes AI not merely a technological upgrade but a significant socio-technical intervention whose benefits and harms require continuous scrutiny rather than celebratory acceptance.

Economically, AI promises sharper forecasting, streamlined operations, and improved

revenue management, reinforcing its status as a valuable competitive asset. Yet these efficiencies risk entrenching inequality within the sector. Firms with advanced digital infrastructures are accumulating disproportionate data advantages, enabling them to refine flexible pricing, personalise marketing, and optimise labour scheduling in ways that smaller operators cannot match. This "data-driven stratification" (Couldry & Mejias, 2019) raises uncomfortable questions about market concentration and the long-term viability of digitally disadvantaged businesses. The pursuit of efficiency must therefore be tempered by consideration of how technological asymmetries reshape competition and power across the industry.

Socially and culturally, AI-mediated personalisation is redefining guest expectations, creating an illusion of intimacy built on pattern recognition rather than genuine relational engagement. While such precision may enhance convenience, it risks diluting the ethos of hospitality as a domain of spontaneity, empathy, and human presence. An over-reliance on automated service routines can encourage a hollow form of "performative warmth" in which staff are reduced to overseers of algorithmic systems rather than active co-creators of the guest experience. The challenge is not simply to preserve "human touch" in a symbolic sense, but to safeguard the interpretive, emotional, and ethical labour that humans uniquely contribute within complex service encounters (Bolton & Houlihan, 2009).

Ethically, the adoption of AI exposes the sector to forms of algorithmic opacity and digital surveillance that directly affect both workers and guests. Systems used for pricing, security screening, performance monitoring, or recruitment can reproduce hidden biases or make decisions that are difficult to contest (O'Neil, 2017). Without robust oversight mechanisms, these systems risk becoming instruments of unaccountable corporate power. Labour concerns are equally pressing; while automation is often framed as a neutral efficiency tool, yet in practice it redistributes work, intensifies monitoring, and places employees under algorithmic management regimes that may erode autonomy and professional identity (Duggan et al., 2020). Ethical AI in hospitality therefore requires more than compliance, it demands a critical interrogation of how power is exercised through datafied systems.

Environmentally, AI's dual role as both sustainability enabler and environmental burden forces a recalibration of prevailing techno-optimism. While AI-driven optimisation can reduce on-site consumption, these gains are counterbalanced by the escalating energy and water demands of global data infrastructures. The environmental footprint of large-scale model training and the lifecycle impacts of electronic hardware are frequently omitted from sustainability reporting, creating a misleading narrative about AI as inherently "green." Unless the sector adopts principles of "sustainable computation" (Oyewole & Joseph, 2025), including transparent reporting, low-impact design, and renewable-powered data centres, the ecological contradictions of AI will remain unresolved.

Furthermore, fragmented regulatory frameworks and uneven organisational readiness continue to shape the trajectory of AI adoption. Compliance-focused approaches alone are insufficient. What is needed is a governance architecture that questions underlying assumptions about technological inevitability, prioritises fairness and accountability, and acknowledges that AI systems shape, not merely support, organisational culture and decision-making. Building digital capacity must therefore be accompanied by cultivating ethical reflexivity, participatory implementation, and cross-level dialogue that recognises employees and guests as stakeholders rather than data points. Taken together, these tensions indicate that AI's impact on hospitality cannot be reduced to narratives of innovation or threat. AI is reconfiguring what it means to host, to serve, and to relate within an increasingly automated service environment. The sector's future depends on its willingness to interrogate what AI can

do and what it ought to do, and for whom. Organisations that adopt AI critically, transparently, and with an ethic of care will be far better equipped to forge a hospitality model that is technologically sophisticated yet socially just, environmentally responsible, and meaningfully human-centred.

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References

Abdulmawla, M., Menesey, R. M., & Khalaf, S. N. (2025). How Human-centric leadership catalyses employee voice behaviour and employee empowerment in the hospitality industry: The mediating role of job crafting. *Journal of the Faculty of Tourism and Hotels-University of Sadat City, 9*(2/2), 1-28.

Aphisavadh, S. (2025). The impact of artificial intelligence in the global hospitality industry by 2030. *World, 25*(1), 1691-1701.

Bahangulu, J. K., & Owusu-Berko, L. (2025). Algorithmic bias, data ethics, and governance: Ensuring fairness, transparency and compliance in AI-powered business analytics applications. *World J Adv Res Rev, 25*(2), 1746-63.

Bakshi, N., & Singh, A. K. (2024). AI-enabled smart buildings reducing the carbon footprint and enhancing guest experiences in eco-friendly hotels. In *Hotel and Travel Management in the AI Era* (pp. 79-98). IGI Global Scientific Publishing.

Banerjee, S. (2024). Intelligent cloud systems: AI-driven enhancements in scalability and predictive resource management. *International Journal of Advanced Research in Science, Communication and Technology*, 266-276.

Berthelot, A., Caron, E., Jay, M., & Lefèvre, L. (2024). Estimating the environmental impact of Generative-AI services using an LCA-based methodology. *Procedia CIRP, 122*, 707-712.

Berthelot, A., Caron, E., Jay, M., & Lefevre, L. (2025). Understanding the environmental impact of generative AI services. *Communications of the ACM, 68*(7), 46-53.

Binesh, N., & Syah, A. M. (2025). *AI ethics in hospitality and tourism: Theoretical perspectives, ethical beliefs, and actionable outcomes*. OSF Preprints, (akf4z_v1).

Bist, Y. (2025). Data Privacy, Ethics, and the Role of Al in Demystifying Emotion AI, Robotics AI, and Sentiment Analysis in *Customer Relationship Management*, 283.

Bolton, S., & Houlihan, M. (2009). *Work matters: Critical Reflections on Contemporary Work*. Bloomsbury Publishing.

Brougham, D., & Haar, J. (2018). Smart technology, artificial intelligence, robotics, and algorithms (STARA): Employees' perceptions of our future workplace. *Journal of Management & Organisation, 24*(2), 239-257.

Buhalis, D., Harwood, T., Bogicevic, V., Viglia, G., Beldona, S., & Hofacker, C. (2019). Technological disruptions in services: lessons from tourism and hospitality. *Journal of Service Management, 30*(4), 484-506.

Buhalis, D., & Moldavska, I. (2022). Voice assistants in hospitality: using artificial intelligence for customer service. *Journal of Hospitality and Tourism Technology, 13*(3), 386-403.

Bulchand-Gidumal, J. (2022). Impact of artificial intelligence in travel, tourism, and hospitality. In *Handbook of e-Tourism* (pp. 1943-1962). Cham: Springer International Publishing.

Chen, A., Koegel, S., Hannon, O., & Ciriello, R. (2023). Feels like empathy: How "emotional" AI challenges human essence. In *Australasian Conference on Information Systems*.

Clark, Q. M., Kanavikar, D. B., Clark, J., & Donnelly, P. J. (2025). Exploring the potential of AI-driven food waste management strategies used in the hospitality industry for application in household settings. *Frontiers in Artificial Intelligence, 7*, 1429477.

Couldry, N., & Mejias, U. A. (2019). The costs of connection: How data is colonizing human life and appropriating it for capitalism. In *The Costs of Connection*. Stanford University Press.

Crawford, K. (2021). *Atlas of AI: Power, Politics, and the Planetary Costs of Artificial Intelligence*. Yale University Press.

Davenport, T., & Ronanki, R. (2018). Artificial intelligence for the real world. *Harvard Business Review, 96*(1), 108–116.

Doborjeh, Z., Hemmington, N., Doborjeh, M., & Kasabov, N. (2022). Artificial intelligence: a systematic review of methods and applications in hospitality and tourism. International *Journal Of Contemporary Hospitality Management, 34*(3), 1154-1176.

Du, S., & Xie, C. (2021). Paradoxes of artificial intelligence in consumer markets: Ethical challenges and opportunities. *Journal of Business Research, 129*, 961-974.

Dwivedi, Y. K., Helal, M. Y. I., Elgendy, I. A., Albashrawi, M. A., Hughes, L., Shawosh, M., ... & Jeon, I. (2025). Artificial intelligence agents and agentic systems in hospitality and tourism: challenges, opportunities and research agenda. *International Journal of Contemporary Hospitality Management*.

https://doi.org/10.1108/IJCHM-02-2025-0287

Duggan, J., Sherman, U., Carbery, R., & McDonnell, A. (2020). Algorithmic management and app-work in the gig economy: A research agenda for employment relations and HRM. *Human Resource Management Journal, 30*(1), 114-132.

Egbemhenghe, A. U., Ojeyemi, T., Iwuozor, K. O., Emenike, E. C., Ogunsanya, T. I., Anidiobi, S. U., & Adeniyi, A. G. (2023). Revolutionizing water treatment, conservation, and management: Harnessing the power of AI-driven ChatGPT solutions. *Environmental Challenges, 13*, 100782.

Enholm, I. M., Papagiannidis, E., Mikalef, P., & Krogstie, J. (2022). Artificial intelligence and business value: A literature review. *Information systems frontiers, 24*(5), 1709-1734.

Ersoy, A., & Ehtiyar, R. (2023). The impact of artificial intelligence on hospitality employees' work outcomes. *Advances in Hospitality and Tourism Research (AHTR), 11*(4), 505-526.

Ezzaouia, I., & Bulchand-Gidumal, J. (2023). The impact of information technology adoption on hotel performance: Evidence from a developing country. *Journal of Quality*

Assurance in Hospitality & Tourism, 24(5), 688-710.

Fang, M., Le Minh, T., Louie, J., Pham, L. N., & Hewson, C. (2026). Leadership networks: Shaping AI innovations through responsible practices in Vietnamese tourism and hospitality firms. *Tourism Management, 113*, 105317.

Fazi, L., Zaniboni, S., & Wang, M. (2025). Age differences in the adoption of technology at work: a review and recommendations for managerial practice. *Journal of Organisational Change Management, 38*(8), 138-175.

Garcia, A., & Adams, J. (2022). Data-driven decision making: Leveraging analytics and AI for strategic advantage. *Research Studies of Business, 1*(02), 77-85.

Gupta, P., & Pareek, R. (2024). AI-enabled guest experience: disrupting hospitality through next-generation ai technologies. In *Technology and Luxury Hospitality* (pp. 165-181). Routledge.

Henriques, H., & Pereira, L. N. (2024). Hotel demand forecasting models and methods using artificial intelligence: A systematic literature review. *Tourism & Management Studies, 20*(3), 39-51.

Ivanov, S., & Webster, C. (2021). Willingness-to-pay for robot-delivered tourism and hospitality services–an exploratory study. *International Journal of Contemporary Hospitality Management, 33*(11), 3926-3955.

Jose, R., Panigrahi, S. K., Patil, R. A., Fernando, Y., & Ramakrishna, S. (2020). Artificial intelligence-driven circular economy as a key enabler for sustainable energy management. *Materials Circular Economy, 2*(1), 8.

Kang, J., Shin, H., & Kang, C. (2024). Hospitality labour leakage and dynamic turnover behaviours in the age of artificial intelligence and robotics. *Journal of Hospitality and Tourism Technology, 15*(5), 916-933.

Khoa, D. T., Gip, H. Q., Guchait, P., & Wang, C. Y. (2023). Competition or collabouration for human–robot relationship: a critical reflection on future cobotics in hospitality. *International Journal of Contemporary Hospitality Management, 35*(6), 2202-2215.

Kozak, M., & Correia, A. (2025). From mass marketing to personalised digital marketing in tourism: a 2050 horizon paper. *Tourism Review, 80*(1), 373-391.

Ladeira, W., Perin, M. G., & Santini, F. (2023). Acceptance of service robots: A meta-analysis in the hospitality and tourism industry. *Journal of Hospitality Marketing & Management, 32*(6), 694-716.

Lee, S. W., & Sharma, A. (2025). AI versus human-generated hotel pricing: Unpacking consumer perceptions of trustworthiness and fairness. *Tourism Economics*, 13548166251391486.

Limna, P. (2023). Artificial Intelligence (AI) in the hospitality industry: A review article. *International Journal of Computing Sciences Research, 7*, 1306-1317.

Liu, J., Qian, Y., Yang, Y., & Yang, Z. (2022). Can artificial intelligence improve the energy efficiency of manufacturing companies? Evidence from China. *International Journal of Environmental Research and Public Health, 19*(4), 2091.

Mariani, M. (2020). Big data and analytics in tourism and hospitality: a perspective article. *Tourism Review, 75*(1), 299-303.

Martin, K., & Nissenbaum, H. (2020). What is it about location? *Berkeley Technology Law Journal, 35*(1), 251-326.

Nam, K., Dutt, C. S., Chathoth, P., Daghfous, A., & Khan, M. S. (2021). The adoption of artificial intelligence and robotics in the hotel industry: prospects and challenges. *Electronic Markets, 31*(3), 553-574.

Ning, M. A. (2024). Artificial intelligence-driven decision support systems for sustainable energy management in smart cities. *International Journal of Advanced Computer Science & Applications, 15*(9).

Nira, R. A. (2025). AI-driven hyper-personalisation in hospitality: application, present and future opportunities, challenges, and guest trust issues. *International Journal of Research and Innovation in Social Science, 9*(4), 5562-5573.

O'Connor, P., & Murphy, J. (2004). Research on information technology in the hospitality industry. *International Journal of Hospitality Management, 23*(5), 473-484.

O'neil, C. (2017). *Weapons of Math Destruction: How Big Data Increases Inequality and Threatens Democracy*. Crown.

Orlikowski, W. J., & Iacono, C. S. (2001). Research commentary: Desperately seeking the "IT" in IT research-A call to theorizing the IT artifact. *Information systems research, 12*(2), 121-134.

Onyeaka, H., Tamasiga, P., Nwauzoma, U. M., Miri, T., Juliet, U. C., Nwaiwu, O., & Akinsemolu, A. A. (2023). Using artificial intelligence to tackle food waste and enhance the circular economy: Maximising resource efficiency and minimising environmental impact: A review. *Sustainability, 15*(13), 10482.

Oyewole, O. O., & Joseph, J. F. (2025). Sustainable AI and green computing: Reducing the environmental impact of large-scale models with energy-efficient techniques. International *Journal of Scientific Research in Network Security and Communication, 13*(3), 19-26.

Reis, J. (2024). Customer service through AI-powered human-robot relationships: Where are we now? The case of Henn na cafe, Japan. Technology in Society, 77, 102570.

Salih, L., Tarhini, A., & Acikgoz, F. (2025). AI-Enabled service continuance: roles of trust and privacy risk. *Journal of Computer Information Systems*, 1-16.

Shaik, M. (2023). Predictive maintenance in hospitality using ai and aws bedrock. *International Journal of Leading Research Publication, 4*(2), 1-10.

Seyitoğlu, F. (2021). Automation vs authenticity in services. *ROBONOMICS: The Journal of the Automated Economy, 2*, 20-20.

Sharma, S., Rawal, Y. S., Pal, S., & Dani, R. (2022). Fairness, accountability, sustainability, transparency (FAST) of artificial intelligence in terms of hospitality industry. In *ICT Analysis and Applications* (pp. 495-504). Singapore: Springer Nature Singapore.

Shestakofsky, B. (2017). Working algorithms: Software automation and the future of work. *Work and Occupations, 44*(4), 376-423.

Shi, X., Hao, F., & Yuan, Y. (2025). Long-term effects of AI-powered robots on employee creativity in the hospitality industry: psychological mechanisms of human–AI collabouration. *Journal of Hospitality Marketing & Management*, 1-23.

Snyder, H. (2019). Literature review as a research methodology: An overview and guidelines.

Journal of Business Research, 104, 333–339.

Solnet, D., Subramony, M., Ford, R. C., Golubovskaya, M., Kang, H. J., & Hancer, M. (2019). Leveraging human touch in service interactions: Lessons from hospitality. *Journal of Service Management, 30*(3), 392-409.

Stankov, U., Gretzel, U., Vujičić, M. D., Pavluković, V., Jovanović, T., Solarević, M., & Cimbaljević, M. (2022). The pandemic of loneliness: designing smart tourism for combating loneliness. *Information Technology & Tourism, 24*(4), 439-455.

Turkle, S. (2007). Authenticity in the age of digital companions. *Interaction studies, 8*(3), 501-517.

Talón-Ballestero, P., Nieto-García, M., & González-Serrano, L. (2022). The wheel of dynamic pricing: Towards open pricing and one to one pricing in hotel revenue management. *International journal of hospitality management, 102*, 103184.

Thomas, J., & Harden, A. (2008). Methods for the thematic synthesis of qualitative research in systematic reviews. *BMC Medical Research Methodology, 8*(1), 45.

Torraco, R. J. (2016). Writing integrative literature reviews: Using the past and present to explore the future. *Human Resource Development Review, 15*(4), 404-428.

Tussyadiah, I. (2020). A review of research into automation in tourism and hospitality. *Annals of Tourism Research, 81*, 102883.

Van Wynsberghe, A. (2021). Sustainable AI: AI for sustainability and the sustainability of AI. *AI and Ethics, 1*(3), 213-218.

Voigt, P., & Von dem Bussche, A. (2017). *The EU General Data Protection Regulation (Gdpr). A Practical Guide, 1st ed.*, Cham: Springer International Publishing, 10(3152676), 10-5555.

Wang, Q., Li, Y., & Li, R. (2024). Ecological footprints, carbon emissions, and energy transitions: the impact of artificial intelligence (AI). *Humanities and Social Sciences Communications, 11*(1), 1-18.

Whittemore, R., & Knafl, K. (2005). The integrative review: updated methodology. *Journal of Advanced Nursing, 52*(5), 546-553.

Zientara, P., Bohdanowicz-Godfrey, P., Whitely, C., & Maciejewski, G. (2020). A case study of LightStay (2010–2017)—Hilton's corporate responsibility management system. *Energies, 13*(9), 2303.

Zhang, B., Pu, Y., Wang, Y., & Li, J. (2019). Forecasting hotel accommodation demand based on LSTM model incorporating internet search index. *Sustainability, 11*(17), 4708.

Zuboff, S. (2019). *The Age of Surveillance Capitalism: The Fight for a Human Future at the New Frontier of Power*. PublicAffairs, New York.

Fuzzy-Set Qualitative Comparative Analysis (Fsqca) And Necessary Condition Analysis (Nca) In Tourism And Hospitality Studies: Bridging Bipolar Methodological Divides

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Abstract
Complex interactions among human behaviour, organisational processes, and consumer experiences characterise the tourism and hospitality field. Traditional symmetrical research methods often impose rigid models and linear relationships, resulting in oversimplified conclusions that fail to capture the complexities of these domains. In contrast, fsQCA and NCA provide a more detailed framework for understanding these complexities. Thus, by integrating fsQCA's configurational insights with NCA's identification of necessary and sufficient conditions, this study demonstrates how these methodologies effectively bridge gaps in symmetrical qualitative and quantitative approaches. The fsQCA allows researchers to explore causal relationships among multiple configurations without rigid dichotomisation. This flexibility is particularly beneficial in this research field, where a variety of factors are examined. Conversely, NCA emphasises discovering sufficient and necessary conditions that should be met for specific outcomes to occur, providing clarity on the constraints within which these outcomes manifest. The study illustrates the synergistic application of fsQCA and NCA through a compelling case study, revealing a complex causal recipe that enhances understanding of the factors that lead to operational efficiency and sustainability in the hospitality industry. This dual methodological framework enables scholars and practitioners to get more in-depth insights into the complexities of the field and drive impactful practices.

Keywords: Methodological Divides, Symmetrical and Asymmetrical Analyses, fuzzy-set Qualitative Comparative Analysis (fsQCA), Necessary Condition Analysis (NCA), and Tourism and Hospitality Studies

Introduction
Traditional symmetrical analysis techniques often impose uniform models and linear relationships on the complex dynamics of tourism and hospitality studies, thereby limiting their applicability. Such results may lead to oversimplified conclusions that overlook the nuanced realities of these fields. Mixed-methods approaches offer insights that single methods cannot provide (Olya, 2023); however, effectively integrating qualitative and quantitative data remains challenging due to their distinct characteristics (Geremew *et al.*, 2024). In contrast, configurational analysis methods, like fsQCA and NCA, offer more suitable frameworks for understanding the multifaceted nature of these fields. These methods can summarise cases, evaluate analytical consistency, review existing theories, and develop new theoretical frameworks. They enable thorough case analysis, enhancing or broadening existing theories (Kahwati & Kane, 2018; Fiss, 2011). This would allow researchers to investigate the configurations that yield specific results, acknowledging that multiple pathways can produce the same effect. Symmetrical methods may inadequately represent complex factors (Fiss, 2011). Asymmetrical methods offer greater flexibility than symmetrical counterparts when merging data types, enabling researchers to tailor analyses to specific contexts and complexities (Schneider & Wagemann, 2012).

fsQCA is a set-based philosophy that allows researchers to analyse causal associations between multiple sets without the constraints of strict dichotomisation. This flexibility is particularly advantageous in social sciences, where phenomena are often complex and do not fit neatly into binary categories. It converts crisp sets and multi-value data into inclusion

values between 0 and 1 (Kahwati & Kane, 2018). Continuous fuzzy sets enable users to evaluate variables with greater precision: 1 = full membership, 0.5 = crossover, and 0 = non-membership. It employs Boolean algebra operations of AND (*), OR (+), and negation (~). The AND operation finds the minimum set score, while the OR operation determines the highest value (Rasoolimanesh et al., 2021). It determines sufficient and necessary conditions by analysing combinations of antecedents (Geremew *et al.,* 2024; Rihoux & Ragin, 2012). For example, combinations of antecedents can be sufficient conditions for an outcome, while some may be necessary but not sufficient. After identifying causal configurations, the final step is to assess their coverage and consistency. Consistency indicates the ratio of cases that share the same results, while coverage reflects the ratio of memberships that account for the overall result (Kraus *et al.,* 2018). Therefore, scholars must understand these concepts as they differ from traditional symmetrical methods. NCA focuses on identifying necessary conditions for achieving specific outcomes, contrasting with traditional methods that emphasise sufficient conditions. Recognising necessary conditions clarifies the underlying mechanisms leading to results (Dul, 2016). The methodology involves several key steps, starting with identifying potential necessary conditions and assessing their relationships with outcomes. Graphical representations help visualise these relationships (Dul & Hak, 2008). It can be combined with other approaches to foster a comprehensive understanding of causality (Dul *et al.,* 2023). Thus, this research note aims to integrate fsQCA and NCA as a transformative method to bridge the bipolar quantitative and qualitative methodologies in the field's studies.

Why Should Tourism and Hospitality Scholars Employ fsQCA and NCA?

Simple linear and symmetrical models struggle to explore the intricate associations arising from interrelated factors in the field (Olya & Altinay, 2016). Thus, relying solely on symmetrical analyses in complex scenarios can be misleading for several reasons: (1) A negative or positive relationship in symmetrical analysis almost always occurs (Olya, 2023; Olya & Altinay, 2016). (2) Symmetrical research provides inconclusive evidence on the positive or negative relationships between antecedent and outcome sets, resulting in frequent occurrences of net effects. (3) Multiple configurations often lead to high outcome scores, suggesting asymmetrical rather than symmetrical relationships are more insightful. (4) Correlation fails to accurately describe the non-linear associations between recipes and outcome sets (Geremew et al., 2024; Woodside et al., 2018). (5) A predictive configuration may not always be sufficient, but it is necessary to determine the magnitude of the result (Pappas & Woodside, 2021). Symmetrical associations often fail to reliably predict outcomes. (6) Strong one-to-one relationships are rare, advocating for research that focuses on predicting when specific conditions will be realised instead of merely indicating the pattern of the association (Woodside et al., 2018). (7) Multiple configurations of antecedents may result in similar outcomes (Pappas & Woodside, 2021). (8) A complex antecedent may be sufficient for an outcome but is not always necessarily required for it to occur (Woodside et al., 2018). (9) Symmetrical methods often overlook outliers, which are crucial in studies such as medical tourism and luxury services (Geremew et al., 2024; Olya & Nia, 2021). (10) Independent variables typically co-occur rather than one after the other, and the notion of "ceteris paribus" does not hold in real life (Pappas & Woodside, 2021). (11) The availability and unavailability of any recipe can cause the same outcome, subject to its combination with other factors (Geremew et al., 2024; Misangyi et al., 2017). (12) Enables non-linear relationships between the recipe and outcome sets, effectively bridging bipolar research methods and accommodating samples from very small (n = 5) to large, allowing for the exploration of both positive and negative contrarian cases (Pappas & Woodside, 2021; Olya & Altinay, 2016). (13) It also avoids the need for multicollinearity or normality tests and can be combined with other symmetrical analyses (Geremew et al., 2024; Olya, 2023). (14) It adeptly addresses the complex role of predictors, making it suitable for exploratory analysis, theory development, and testing (Woodside et al., 2018; Olya, 2023). Furthermore, QCA

calculates outcome negation, generates multiple predictive solutions, models outcome configurations, and captures the complexity of causality in the field's study.

How to Apply fsQCA and NCA in Tourism and Hospitality Studies?

The main objective of a causal recipe analysis is to examine how various recipes yield specific levels of outcomes. While high values of the antecedent set can lead to high outcome values, they are not always required for high outcomes. High outcome values may also arise from low antecedent values, suggesting that additional causal recipes contribute to achieving those outcomes (Geremew et al., 2024; Olya & Gavilyan, 2017). For example, various factors, including green technology adoption (GTA), environmental, social, and governance (ESG), green leadership (GL), green behaviour (GB), and organisational well-being (OW), may influence hospitality operational efficiency (OE). The adoption of green technology, along with environmental, social, and governance factors, green leadership, green behaviour, and organisational well-being, may play a significant role in driving enhanced operational efficiency [□(GTA*ESG*GL*GB*OW) →□OE]. Green technology adoption, environmental, social, and governance factors, and green leadership may improve operational efficiency, independent of green behaviour and organisational well-being [□(GTA *ESG *GL) + (GB*OW) → □OE]. The absence of adopting green technology, alongside environmental, social, and governance factors, and green leadership, persists despite the presence of green behaviour and organisational well-being and may lead to low operational efficiency [~(GTA *ESG *GL) + (GB*OW)→ □OE]. High adoption of green technology, effective green leadership, and proactive green behaviour may drive high operational efficiency, irrespective of environmental, social, and governance factors and organisational well-being [□(GTA *GL *GB) + (ESG*OW) → □OE]. In contrast, low adoption of green technology and green leadership combined with high green behaviour, environmental, social, and governance factors, and organisational well-being may yield low operational efficiency [□GTA *□GL*□GB*□ESG*□OW → □OE]. Thus, high and low-outcome sets require more intricate and nuanced recipes.

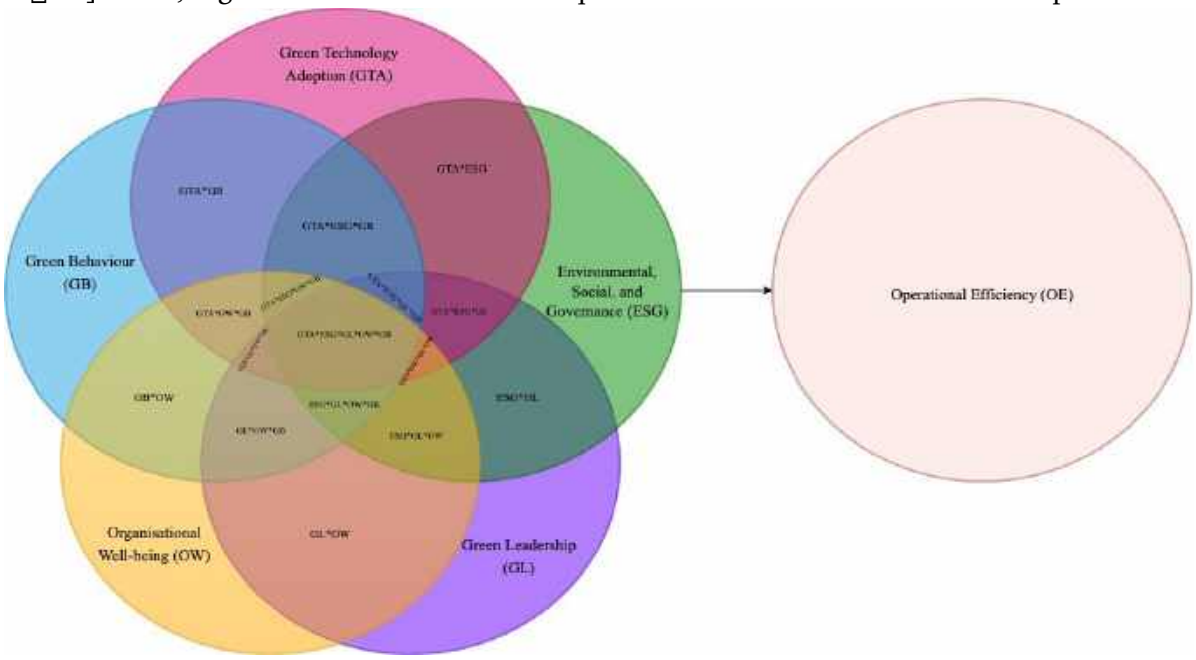

Figure 1: Asymmetrical model of antecedent and outcome sets

Such a study can utilise PLS-SEM symmetrical analysis to identify which exogenous variables influence high operational efficiency and compare the results among the exogenous variables. However, since exogenous variables interact concurrently, scholars shall combine PLS-SEM

with fsQCA and NCA to analyse which configurations lead to high efficiency and which are necessary and sufficient conditions (Rasoolimanesh et al., 2021). Integrating both methods provides more profound insights into complex causal relationships than PLS-SEM alone (Olya, 2023). The fsQCA can be integrated with PLS-SEM based on the following procedures: (1) Extracting the standardised latent variable scores of PLS-SEM. (2) Calibrating these scores to a range of [0, 1], a crossover point 0.50. (3) Creating a truth table for all possible configurations (2^n, where n = number of antecedent sets), removing cases with two or fewer and consistency below 0.80. (4) Compute the coverage and consistency of all recipes using an intermediate score. (5) Set coverage greater than 0.20, consistency greater than 0.80 for sufficiency, and values of 0.90 and above for necessary conditions can be considered. (6) Randomly dividing the sample into two subsets; fsQCA can be executed on the first group to identify recipes. The other group can generate a graph to verify coverage and consistency scores, confirming the model's predictive power. Although fsQCA enables necessary analyses in kind, it does not reveal the specific antecedents required for achieving high outcome scores at varying levels. Therefore, conducting a separate NCA may be crucial as it reduces the likelihood of errors (Dul, 2016). Its purpose is to identify regions in the graphs of recipes and outcomes that indicate the availability or unavailability of necessary recipes by establishing a ceiling line above (Richter *et al.*, 2020). It also displays graphs for recipe sets relative to the outcome. The effect size compares the empty zone relative to areas containing observations. It is categorised as small (up to 0.1), medium (from 0.1 to 0.3), large (from 0.3 to 0.5), and very large (above 0.5) (Rasoolimanesh et al., 2021; Dul et al., 2023). To calculate its parameters, ceiling zone, scope, and effect size, 10,000 bootstrapping and permutation analyses can be conducted using SmartPLS 4.

The antecedents of green technology adoption (GTA), environmental, social, and governance (ESG) factors, green leadership (GL), green behaviour (GB), and organisational well-being (OW) have a significant impact on shaping operational efficiency (OE) in the hospitality industry. This framework illustrates the contributions of fsQCA and NCA as follows: *Tenet 1: In a symmetrical analysis, a simple exogenous variable may be statistically significant and necessary, yet not sufficient for reliably predicting specific endogenous variables.* A high recipe score can predict a high result in symmetric analysis; however, this is not the case with the asymmetric method (Rasoolimanesh et al., 2021; Pappas & Woodside, 2021). A maximum recipe score does not reliably lead to a high outcome score, even with a large effect size. For instance, while the increased adoption of green technology may enhance the likelihood of operational efficiency, (□GTA □ □OE) depends on other factors in asymmetric analysis. High OE also requires strong green leadership, environmental, social, and governance, green behaviour, and organisational well-being. The sufficiency model suggests that high levels of GTA, ESG, GL, GB, and OW collectively contribute to high OE, as indicated by the following relationship: [(GTA*ESG*GL*GB*OW) → OE]. Thus, green technology alone is necessary but insufficient to achieve high overall efficiency (OE). *Tenet 2: Complex antecedents configured with simple recipes are sufficient for high outcome scores.* Complex recipes formed from the configurations of green technology adoption, environmental, social, and governance factors, green leadership, green behaviour, and organisational well-being can consistently achieve high scores in operational efficiency. There are 32 recipes (2^5), and accurate outcome predictions are required for these complex configurations (Geremew et al., 2024; Woodside, 2014). The simple recipes of all antecedents combine to form more complicated recipes that can lead to high operational efficiency outcomes.

Tenet 3: Different ways to achieve a typical result, equifinality. In asymmetrical analyses,

multiple complex recipes can lead to similar conclusions. Although a multifaceted configuration can be sufficient for achieving a result, it is not inherently required. Different configurations do not occur equally; the key challenge is constructing highly consistent configurations. Model selection relies on consistency and coverage. A consistency threshold of at least 0.85 is advised for macro-level data, while coverage above 0.2 indicates recipe sufficiency (Woodside et al., 2018). Different recipes for green technology adoption, including environmental, social, and governance factors, green leadership, green behaviour, and organisational well-being, can support higher operational efficiency but are not strictly necessary. High green technology adoption alone may not be sufficient for achieving high operational efficiency, as both complex and straightforward recipes can yield similar results. *Tenet 4: Recipes are unique and not contradictory, causal asymmetry.* Support and rejection are distinct concepts; the reasons for one do not necessarily explain the reasons for the other. Asymmetric models are essential for scholars to address both rejection and support separately (Geremew et al., 2024; Olya, 2023). The causal recipes predicting high operational efficiency from green technology adoption, environmental, social, and governance factors, green leadership, green behaviour, and organisational well-being do not merely contradict those for low operational efficiency; □(GTA*ESG*GL*GB*OW) does not replicate □(GTA*ESG*GL*GB*OW). No single antecedent is necessary or sufficient for achieving high OE, as high scores do not sufficiently account for low scores. This distinction does not contradict different configurations. Furthermore, the negation of recipes does not imply their complete absence; it represents a reduction in value, expressed as ∼(GTA*ESG*GL*GB*OW) = 1 – (GTA*ESG*GL*GB*OW).

Tenet 5: Antecedents can influence outcomes positively or negatively. It relies on the availability or unavailability of other configurations (Olya, 2023; Woodside, 2014). Causal recipes are crucial for illustrating how various configurations lead to differing outcome scores. For instance, high green technology adoption and environmental, social, and governance factors may enhance operational efficiency (OE), □(GTA∗ESG)→□OE. However, high green technology adoption combined with green behaviour may not yield the same positive effect on operational efficiency, □(GTA∗GB) ≠ □OE. This distinction helps scholars analyse high and low OE outcomes, regardless of the presence of ESG. These models can guide hospitality organisations in proactively addressing potential failures in ESG and mitigating remediable causes.

Tenet 6: Antecedent sets have negative and positive relationships with outcome sets (Geremew et al., 2024; Olya, 2023). A recipe of high green technology adoption, environmental, social, and governance factors, green leadership, green behaviour, and organisational well-being may be necessary to achieve high positive operational efficiency outcome □(GTA*ESG*GL*GB*OW)→□OE. Conversely, high adoption of green technology, environmental, social, and governance factors, green leadership, and green behaviour alongside negative organisational well-being can lead to low operational efficiency outcomes, □(GTA*ESG*GL*GB)*∼OW→□OE. Thus, the impact of these antecedents on the positive or negative outcome depends on the direction of the recipe.

Tenet 7: Exceptions for high antecedent scores in predicting outcomes. High antecedent scores may not influence outcomes unless they are very low or high in other configurations (Geremew et al., 2024; Woodside et al., 2018). High operational efficiency typically requires a strong adoption of green technology, as well as environmental, social, and governance (ESG) factors, green leadership, green behaviour, and organisational well-being. This tenet emphasises that fsQCA should be applied using combinatorial rules.

Tenet 8: Recognising contrarian cases in complex outcomes. Scholars often examine outcome antecedents separately, but analysing them as components of causal recipes can enhance the understanding and forecasting of outcomes (Woodside et al., 2018; Olya, 2023). High or low operational efficiency can arise from varying configurations of green technology adoption, environmental, social, and governance factors, green leadership, green behaviour, and organisational well-being. Examining conditions of both high and low green technology adoption helps achieve a deeper understanding of outcomes—for instance, observing cases where high adoption leads to high efficiency (□GTA→□OE), but also contrarian cases where low adoption still results in high efficiency (□GTA→□OE). Therefore, moving beyond single-variable analysis to examine complex recipes that integrate factors such as green leadership leads to a more nuanced understanding of operational efficiency outcomes.

Conclusion, Limitations, and Future Research

Combining fsQCA and NCA with other symmetrical analyses represents a significant advancement in research methodologies in this field. By bridging bipolar methodological divides, these approaches enhance understanding of intricate relationships. As the landscape evolves, diverse methodologies will be crucial for addressing emerging challenges and opportunities. Scholars can benefit from a pragmatic approach that incorporates various antecedents into their models (Olya & Nia, 2021). This conceptual note has limitations due to its theoretical nature and absence of empirical data. Thus, future research should address methodological and analytical gaps in fsQCA and NCA using actual data. Furthermore, integrating symmetrical analyses with asymmetrical approaches warrants further exploration, particularly through qualitative research for the development of theory. Subsequent investigations may also examine mediator relationships within sets and explore the applications of fsQCA. Refining fsQCA and NCA methodologies for longitudinal studies is crucial, particularly in identifying configurations that promote sustainability in the industry.

References

Dul, J. (2016). Necessary condition analysis (NCA) logic and methodology of "necessary but not sufficient" causality. *Organisational Research Methods*, *19*(1), 10-52.

Dul, J., & Hak, T. (2008). *Case Study Methodology in Business Research*. Routledge.

Dul, J., Hauff, S., & Bouncken, R. B. (2023). Necessary condition analysis (NCA): review of research topics and guidelines for good practice. *Review of Managerial Science*, *17*(2), 683-714.

Fiss, P. C. (2011). Building better causal theories: A fuzzy set approach to typologies in organisation research. *Academy of Management Journal*, *54*(2), 393-420.

Geremew, Y. M., Huang, W. J., & Hung, K. (2024). Fuzzy-set qualitative comparative analysis as a mixed-method and analysis technique: a comprehensive systematic review. *Journal of Travel Research*, *63*(1), 3-26.

Kahwati, L. C., & Kane, H. L. (2018). *Qualitative comparative analysis in mixed methods research and evaluation*. Sage Publications.

Kraus, S., Ribeiro-Soriano, D., & Schüssler, M. (2018). Fuzzy-set qualitative comparative analysis (fsQCA) in entrepreneurship and innovation research–the rise of a method. *International Entrepreneurship and Management Journal*, *14*, 15-33.

Misangyi, V. F., Greckhamer, T., Furnari, S., Fiss, P. C., Crilly, D., & Aguilera, R. (2017). Embracing causal complexity: The emergence of a neo-configurational perspective. *Journal of Management*, *43*(1), 255-282.

Olya, H. G. (2023). Towards advancing theory and methods on tourism development from residents' perspectives: Developing a framework on the pathway to impact. In *Methodological Advancements in Social Impacts of Tourism Research* (pp. 34-54). Routledge.

Olya, H. G., & Altinay, L. (2016). Asymmetric modeling of intention to purchase tourism

weather insurance and loyalty. *Journal of Business Research*, *69*(8), 2791-2800.

Olya, H. G., & Gavilyan, Y. (2017). Configurational models to predict residents' support for tourism development. *Journal of Travel Research*, *56*(7), 893-912.

Olya, H., & Nia, T. H. (2021). The medical tourism index and behavioral responses of medical travelers: A mixed-method study. *Journal of Travel Research*, *60*(4), 779-798.

Pappas, I. O., & Woodside, A. G. (2021). Fuzzy-set Qualitative Comparative Analysis (fsQCA): Guidelines for research practice in Information Systems and marketing. *International journal of information management*, *58*, 102310.

Rasoolimanesh, S. M., Ringle, C. M., Sarstedt, M., & Olya, H. (2021). The combined use of symmetric and asymmetric approaches: partial least squares-structural equation modeling and fuzzy-set qualitative comparative analysis. *International Journal of Contemporary Hospitality Management*, *33*(5), 1571-1592.

Richter, N. F., Hauff, S., Ringle, C. M., Sarstedt, M., Kolev, A. E., & Schubring, S. (2023). How to apply necessary condition analysis in PLS-SEM. In *Partial least squares path modeling: Basic concepts, methodological issues and applications* (pp. 267-297). Cham: Springer International Publishing.

Rihoux, B., & Ragin, C. (2012). *Configurational comparative methods: Qualitative comparative analysis (QCA) and related techniques*. SAGE Publications Inc.

Schneider, C. Q., & Wagemann, C. (2012). *Set-theoretic methods for the social sciences: A guide to qualitative comparative analysis*. Cambridge University Press.

Woodside, A. G. (2014). Embrace• perform• model: Complexity theory, contrarian case analysis, and multiple realities. *Journal of Business Research*, *67*(12), 2495-2503.

Woodside, A. G., Nagy, G., & Megehee, C. M. (2018). Applying complexity theory: A primer for identifying and modeling firm anomalies. Journal of Innovation & Knowledge, 3(1), 9-25.