



Impact of Environmental Concern, Government Role, and Attitude on Green Patronage Behaviour: Does Green Patronage Intention Matter?

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Abstract. This study investigates the factors influencing green patronage behavior among customers of five-star green hotels in China, addressing a novel gap in the hospitality sector. A cross-sectional survey design was employed, with data collected from a convenience sample of respondents. A total of 503 valid responses were analyzed using SmartPLS 4, a structural equation modeling tool that enabled the examination of complex relationships among variables. The findings reveal that environmental concern, attitudes toward green hotels, and the perceived role of government significantly influence green patronage intention (GPI). In turn, GPI positively impacts green patronage behavior (GPB), highlighting its critical role in mediating the relationship between antecedent factors and behavioral outcomes. The study further confirms that environmental concern, the perceived role of government, and attitudes toward green hotels positively affect GPB through GPI, emphasizing the importance of fostering environmental awareness and positive perceptions of green initiatives. By addressing a gap in understanding consumer behavior within China's rapidly evolving green hospitality sector, this research provides valuable insights for practitioners and policymakers. It underscores the necessity of promoting sustainable practices and supportive policies to enhance green patronage. The study's theoretical contributions and practical implications are further discussed.

Keywords: Attitude, Environmental concern, Government role, Green hotels, Patronage behavior, Patronage intention.

1. INTRODUCTION

The hospitality industry is transforming as sustainability becomes central to its operations. This evolution, driven by growing environmental awareness and global sustainable development goals, has prompted businesses to adopt eco-friendly practices (Pham et al., 2020). Increasing consumer demand for environmentally conscious services has reinforced this trend (Tanveer et al., 2024). Hospitality companies are moving beyond profit maximization to embrace sustainability, aiming to align stakeholder expectations with development goals. Luxury five-star hotels, while synonymous with premium services, face challenges in guest satisfaction due to rising expectations, market trends, and sustainability pressures (DeFranco et al., 2022). The concept of green hotels has emerged, emphasizing energy efficiency, waste reduction, and eco-friendly operations. Despite their benefits, green hotels and the broader hospitality industry contribute significantly to environmental issues, including waste generation, air pollution, and resource overuse (Dang-Van et al., 2023). Luxury hotels must balance high service standards with sustainable practices to mitigate their ecological footprint. For instance, rapid urbanization in developed countries has escalated environmental challenges, including marine pollution from plastics and biodiversity loss. Globally, hospitality accounts for approximately 2% of CO₂ emissions (UNWTO, 2023). The industry's substantial economic contribution—\$4.7 trillion in 2023—amplifies the need for sustainable practices (Statista, 2024). Sustainability efforts are evident across regions. The EU enforces regulations promoting energy efficiency, while the U.S. emphasizes green standards like LEED certification (European Commission, 2020; USGBC, 2021). In Asia, countries like Japan and South Korea are advancing eco-friendly practices, while Southeast Asian nations such as Thailand and Indonesia foster green tourism through certifications and initiatives (Korea Tourism Organization, 2021; ASEAN Tourism, 2019). In Australia, the Green Building Council promotes stringent sustainability standards (Green Building Council Australia, 2020). China presents a unique context for green hotels. As the government emphasizes environmental protection in its 14th Five-Year Plan, luxury hotels are integrating sustainable practices to cater to eco-conscious consumers (National Development and Reform Commission, 2021). Examples include Six Senses Qing Cheng Mountain and Banyan Tree Lijiang Resort, which adopt energy-efficient measures and promote cultural conservation (Six Senses, 2022; Banyan Tree, 2021). However, research highlights inconsistencies between consumer attitudes and behaviors towards green hotels, necessitating deeper exploration of motivational factors (Dang-Van et al., 2023). Consumer behavior is crucial to understanding the adoption of green hotels. A Nielsen study (2018) found that 73% of Chinese consumers are willing to pay more for sustainable services, reflecting a growing market for eco-friendly luxury accommodations. Nonetheless, barriers persist. For instance, communication gaps about green initiatives reduce guest engagement, as seen in case studies of Park Hyatt Ningbo Resort and Alila Yangshuo (Park Hyatt Ningbo Resort and Spa, 2020; Alila Yangshuo, 2021). Technology enhances sustainability in hospitality. Innovations like automated energy management systems improve efficiency and guest experience, as demonstrated by Mandarin Oriental Pudong's advanced HVAC and lighting systems (Mandarin Oriental Pudong, Shanghai, 2020). The China Green Hotel Standard further supports eco-friendly initiatives through certifications and incentives (China Green Hotel Standard, 2020). Cultural and social dynamics also influence sustainability adoption. In China, harmony with nature and younger generations' eco-consciousness drive demand for green practices (CSG, 2021). However, traditional luxury consumers often equate luxury with excess, creating challenges for sustainable luxury brands to balance opulence with eco-consciousness.

The luxury five-star hotel industry in China is increasingly adopting green practices, spurred by rising environmental awareness and government initiatives. However, consumer adoption remains low, with only 30% of Chinese consumers choosing green hotels, and even fewer willing to pay a premium (China Tourism Green Book, 2023). This gap poses challenges for luxury green hotels, which rely on consumer support for sustainability initiatives. Despite their resources, these hotels face inconsistencies between consumer attitudes and actions (Dang-Van et al., 2023), emphasizing the need for deeper insights into consumer behavior. Several antecedents influence green patronage behavior, including environmental concern, perceived value (Ogiemwonyi, 2024), attitudes, government regulations, and perceived consumer effectiveness (Daragmeh et al., 2021). While green practices positively impact perceptions, their effect on actual patronage behavior remains underexplored (Dang-Van et al., 2023). Individual factors, such as attitudes and beliefs, significantly shape green consumption, but practical concerns like cost often override positive attitudes.

Situational factors, such as environmental concern, further influence behavior. Social norms also play a role, especially in China, where conformity drives decisions (Susanty, 2021; Nguyen et al., 2020). The perceived government role is crucial in shaping behavior. Effective marketing strategies, coupled with government endorsements, enhance consumer trust in green claims (Ahmed, 2023; Luong & Nguyen, 2024). However, gaps remain in understanding these dynamics, particularly in China, where cultural and economic factors uniquely influence behavior (Filimonau et al., 2022). This study addresses these gaps by exploring the mediating role of green patronage intention in the relationship between key predictors and behavior. Green patronage intention bridges external stimuli—such as the environmental concern, and government role—and behavioral responses, aligning with the Stimulus-Organism-Response (SOR) theory (Mehrabian & Russell, 1974). Stimuli trigger internal evaluations (intentions), leading to actions (Chen & Peng, 2012; Ajzen, 1991). For example, environmental concern and positive attitudes enhance intentions, which mediate their impact on behavior (Han et al., 2010). Similarly, government support fosters trust, creating positive evaluations that drive behavior (Chen & Chai, 2010).

To sum up, understanding purchase intentions and consumption behaviors towards luxury green hotels is critical for aligning market demands with sustainability goals. Addressing research gaps, improving communication strategies, and fostering innovation can enhance the effectiveness of green initiatives, ensuring the hospitality sector contributes meaningfully to sustainable development (Asdren Toska et al., 2022; Khan et al., 2023). Incorporating green patronage intention offers deeper insights into how key predictors influence sustainable consumer choices. By integrating these variables into a comprehensive framework, this study contributes to understanding green consumption in luxury hotels, particularly in China, where green patronage remains low despite growing environmental awareness. To address these issues, the paper is structured as follows: Section 1 provides the introduction. Section 2 presents the literature review and hypotheses. Section 3 details the methodology and the empirical model testing to assess the strength and direction of the relationships between the variables. Section 4 discusses the key findings, along with their implications for theory, practice, and study limitations.

2. LITERATURE REVIEW

The impact of environmental concern, government role, and individual attitudes on green patronage behavior is a multifaceted issue that has garnered significant attention in recent years. This literature review synthesizes existing research to elucidate how these factors influence green patronage intentions and behaviors, emphasizing the importance of understanding consumer motivations in the context of sustainability.

2.1. Green Patronage Behavior

Zhang et al. (2024) findings indicate perceived value and expected moral benefit influence purchase, while perceived greenwashing did not. The study highlights that green clothing type moderates the influence of these factors, with green home-in wear showing a weaker negative effect on purchase intentions. Gani (2021) found green products and green lifestyle had a significant impact. The study also concludes that green marketing concepts, including product and lifestyle, are key determinants of purchasing decisions. On et al. (2016) finds that senses of belonging, pleasure, and pride influence customer value, with environmental factors being key in purchasing decisions. Also study found that cultural and situational factors, along with opinion leaders, play a more significant role in consumer behavior toward buying recycled paper furniture, emphasizing the complex dynamics of eco-friendly purchases. Oghenekevwe et al. (2024) findings indicate that biodegradable, recyclable, and optimized packaging positively influence repeat patronage. The study recommends a shift from conventional to green packaging to enhance customer loyalty, reduce environmental waste, and promote sustainable business practices in Nigeria's manufacturing sector. Bashir et al. (2019) finds that environmental consciousness positively impacts personal norms and behavior toward green hotels. Personal norms mediate the relationship between environmental consciousness, intention towards eco-friendly lodging, and green consumer behavior. Additionally, intention mediates the link between personal norms and green behavior. Ogiemwonyi (2024) finds that green culture is the strongest predictor of green behavior, particularly in Nigeria. Green product trust and value positively impact green behavior, while environmental awareness does not. The study underscores the importance of promoting green culture and environmental awareness to boost eco-friendly practices in developing nations. Jan et al. (2019) found that health and safety values positively affect green product buying attitudes, unlike ecological and economic values. Buying attitude significantly influences purchase behavior.

Additionally, government role and media exposure moderate the relationship between safety values and buying attitudes. Kamalanon et al. (2022) shows that green purchase intention significantly drives behavior, especially in developing countries. Attitude toward green products, perceived consumer effectiveness (PCE), environmental concern, and a company's perceived green image shape purchase intentions. PCE playing a crucial role in driving green purchases.

In sum, the studies offer valuable insights into green consumer behavior across different contexts but exhibit some limitations. Zhang et al. (2024) does not sufficiently explore why perceived greenwashing had no significant effect, potentially overlooking consumer skepticism's impact. Gani (2021) neglects broader market factors like brand reputation or long-term energy savings in green product adoption. On et al. (2016) lacks detailed analysis of how cultural factors intertwine with environmental priorities. Oghenekevwe et al. (2024) overlooks potential barriers in transitioning to green packaging. Bashir et al. (2019), Jan et al. (2019), and Kamalanon et al. (2022) focus heavily on TPB, yet fail to address the evolving influence of digital media and global trends on eco-conscious consumers. This suggests that while these frameworks are insightful, they require adaptation to more dynamic consumer environments.

2.2. Environmental Concern

Environmental concern refers to individuals' awareness, values, and attitudes toward environmental issues, and their commitment to protecting and preserving the environment (Asiedu-Ayeh et al., 2022). It is a psychographic variable influenced by knowledge, beliefs, values, and norms, which drives preferences for eco-friendly products, green policies, and sustainable behaviors. While environmental concern is a significant motivator for pro-environmental behavior, it does not always translate into tangible green actions, highlighting a gap in understanding how awareness influences commitment. Human agency, which includes personal motivation and decision-making, is central to understanding this behavior. Studies have shown that environmental concern is crucial for green consumer behavior, but it has been underexplored in the context of the hotel industry. Environmental concern can significantly predict Green Patronage Intention and contribute to sustainability efforts. For example, Cowther et al. (2024) found that hotel guests in Ghana recognized and supported eco-friendly initiatives, such as recycling and water conservation systems, showing that the green marketing mix influences green patronage behavior. Shodiq et al. (2023) examined consumer behavior in fast-food restaurants in Malang Raya, finding that while consumers prioritize other needs over eco-friendly attributes during the purchasing decision, they show environmental care in post-consumption actions like waste sorting. This highlights the conditional nature of green patronage, where the green marketing mix influences behavior only after basic needs are met. Dong et al. (2023) explored the role of values, ascribed responsibility, environmental concern, and personal norms in customers' intentions to visit green hotels. The study showed that environmental concern alone did not directly affect patronage intentions; however, it significantly influenced them through personal norms, emphasizing the role of personal values in translating concern into action. Rusyani et al. (2021) also found that environmental knowledge and concern strongly influence eco-friendly purchasing behavior in India. These studies collectively highlight that while environmental concern is a significant driver of green consumer behavior, its impact is often mediated by personal norms and other factors. In the hotel industry, environmental concern plays a key role in shaping green patronage behaviors and promoting sustainability (Cowther et al., 2024; Shodiq et al., 2023; Dong et al., 2023). Thus, understanding how environmental concern translates into consumer behavior is crucial for developing effective green marketing strategies.

2.3. The Perceived Role of Government

The perceived role of government refers to the public's beliefs and expectations about how government entities should address issues like environmental protection, regulation, and public safety. This includes perceptions of government effectiveness, responsibility, legitimacy, and the trust placed in government initiatives (Fahlquist, 2019). Studies suggest that government involvement is crucial in fostering environmentally friendly behavior, with institutions like governments and producers providing the necessary support (Kollmuss & Agyeman, 2002). Environmentalists often advocate for increased government intervention through Corporate Social Responsibility (CSR) policies and regulations that drive eco-friendly practices (Bondy et al., 2012; Jamali, 2008). Governments can also promote sustainability through fiscal mechanisms, such as subsidies and tax exemptions, and by using their proximity to consumers to improve accountability through education (Smirnova et al., 2011; Liu et al., 2012). Public awareness is key to encouraging sustainable behaviors (Marquart-Pyatt, 2019; Young et al., 2016). Various studies have explored government roles in different domains, such as Carter et al. (2023), who examined service quality and price competitiveness in pharmacies, and Omar (2024), who studied patronage dynamics in Kenya's government employment sector. However, these studies do not address the luxury green hotel sector, and there is a gap in understanding consumer behavior in the context of green patronage, particularly in China. Thus, further research is needed to explore the role of government in promoting sustainable practices in five-star green hotels.

2.4. Attitudes Toward Green Hotels

Attitudes toward green hotels encompass individuals' beliefs, feelings, and behavioral intentions regarding eco-friendly hotels. Research highlights the influence of environmental friendliness, perceived value, and barriers on consumers' intentions (Baker, 2014; Ahn, 2020). While guests prefer green hotels, they are often reluctant to

pay a premium (Manaktola, 2007), although eco-friendly attitudes can increase willingness to visit, spread word-of-mouth, and pay more (Han, 2011). Green hotels contribute to sustainable tourism through practices like waste reduction and energy efficiency (Ko, 2021; Nimri et al., 2020), but critics question their feasibility (Čapienė et al., 2022; Kumar et al., 2023). Studies have shown that sustainable practices, such as renewable energy and energy-efficient technology, lower operating costs and attract environmentally conscious customers (Kuokkanen, 2020; Kalyar, 2021). Green hotels benefit from long-term sustainability investments despite higher initial costs, with returns seen in utility savings, brand recognition, and regulatory compliance (Abdul, 2023; Elnashar, 2023). They also offer social benefits, including regional economic growth and cultural preservation (Perez-Alvaro, 2023; Woodward & Cooke, 2022). Despite debates, green hotels push for environmental stewardship and sustainable tourism (Aboramadan & Karatepe, 2021). They challenge the hospitality industry, shaping customer expectations and advancing sustainability (Thongkerd, 2022). Cowther et al. (2024) and Patwary et al. (2023) highlight the role of environmental practices in influencing hotel guests' attitudes, while Lita et al. (2014) show that positive attitudes enhance a hotel's image and customer loyalty. However, studies focusing on specific regions, such as China, remain limited, pointing to a need for further research on regional differences in green patronage behavior.

The interplay between these factors—environmental concern, government role, and individual attitudes—highlights the importance of green patronage intention as a precursor to actual patronage behavior. Research indicates that intention serves as a significant predictor of behavior, with studies showing that consumers who express a strong intention to engage in green practices are more likely to follow through (Teng et al., 2014). This relationship emphasizes the need for businesses to not only promote their green credentials but also to cultivate positive consumer attitudes and enhance environmental awareness through targeted marketing strategies.

2.5. Green Patronage Intention

The debate over using intention as a predictor of actual behavior has existed for decades. Fishbein (1971) argued that attitudes toward performing a given behavior are usually related to the behavior itself, though they are not always accurate predictors. However, many studies (Ajzen & Fishbein, 1970; Fishbein & Ajzen, 1975) have shown that behavioral intentions are the best predictors of actual behavior, supported by empirical evidence from various fields, including social psychology (Rocheleau, 2013), healthcare (Moshier et al., 2013), and entrepreneurship (Kautonen et al., 2015). This relationship has been especially important in understanding consumer behavior in the hospitality industry, particularly regarding green purchases, as environmental concerns increasingly influence consumers (Krausie, 2019; Akehurst et al., 2022). The focus is on fostering positive consumer intentions to improve customer retention and profitability in green hotels. Recent studies have explored variables affecting consumer intentions toward green hotels, such as visit intention, revisit intention, word-of-mouth, and willingness to pay (Rahman & Reynelds, 2019; Yadav et al., 2019; Cheng & Tung, 2018). However, few have integrated key factors like environmental concern, government role, and attitudes toward green hotels. This study aims to address this gap by focusing on green purchase intentions as a behavioral outcome, defined as the likelihood of purchasing a product driven by environmental needs (Chen & Chang, 2012). Tan (2023) highlights the positive role of environmental knowledge in shaping attitudes and intentions toward green hotel patronage, suggesting that hoteliers emphasize functional and epistemic benefits. Tan et al. (2020) emphasizes the influence of altruism and motivational factors on patronage intentions. Filimonau et al. (2022) identify environmental knowledge and pro-environmental attitudes as strong predictors of patronage intentions. They also note that age and affluence significantly impact patronage, while travel frequency does not. Given the existing gap in understanding green hotel patronage in China, this study proposes using Stimulus-Organism-Response (SOR) theory to examine the mediating effect of green patronage intention in the relationship between organizational controls, group norms, and patronage intentions. This framework offers a comprehensive approach to studying consumer behavior in the Chinese hospitality market. In conclusion, the impact of environmental concern, government role, and individual attitudes on green patronage behavior is profound and interconnected. Understanding these dynamics is essential for businesses aiming to enhance their sustainability efforts and align with consumer expectations. Future research should continue to explore these relationships, particularly in diverse cultural contexts, to develop more effective strategies for promoting green patronage behavior.

2.6. Hypothesis Development

2.6.1. Environmental Concern and Green Patronage Intention

Based on the extensive literature reviewed, environmental concern has emerged as a pivotal driver of sustainable behavior, reflecting individuals' emotional, cognitive, and attitudinal commitment to mitigating environmental degradation. Despite the increasing global awareness of environmental issues (O'Riordan, 2015; Schultz, 2019), the relationship between environmental concern and green consumer behavior remains complex, as consumers often balance environmental priorities with factors such as pricing, product performance, and social norms (Jaeger et al., 2022; Priem, 2019b). While previous studies highlight the challenges of translating environmental concern into consistent green behaviors (Albayrak et al., 2019; Kim & Choi, 2015), they also underscore its potential to influence green purchasing when combined with knowledge, values, and normative pressures (Alipour et al., 2020). Given these findings, this study posits that environmental concern significantly predicts Green Patronage Intention, thereby fostering sustainable consumer behavior. The following hypothesis

is proposed:

H₁: Environmental Concern is positively and significantly related with Green Patronage Intention.

2.7. Perceived Role of Government and Green Patronage Intention

The role of government in encouraging green practices and influencing consumer behavior has been widely discussed, though with varying conclusions. Governments are instrumental in fostering sustainable practices, as evidenced by their ability to regulate industries, incentivize eco-friendly behavior, and promote environmental management practices (D'Souza et al., 2016; Tang et al., 2023). However, some researchers argue that government-led efforts to shape consumer behavior may face resistance due to the principle of consumer sovereignty and potential non-compliance (Sheth & Mammana, 2019; Schrader, 2017). Despite these challenges, governments that actively promote sustainability through laws, incentives, and public education can positively influence consumer attitudes and behaviors (Hume et al., 2019; Mourad & Ahmed, 2019). For example, studies have shown that regulatory frameworks and sustainability-focused policies can enhance the adoption of green consumption behaviors, such as green purchasing intentions (Mei, Ling, & Piew, 2015; Kjeldsen et al., 2023). Furthermore, government initiatives that raise awareness and provide guidance have been found to foster collective action and increase individual environmental responsibility (Wayilen et al., 2019). In the context of the hospitality industry, where consumer behaviors are highly sensitive to external influences, the perceived role of government in promoting eco-friendly practices could be a critical determinant of Green Patronage Intention. Given the sector-specific variability in how government actions influence consumer behavior (Kolk & Pinkse, 2017; Céspedes-Lorente et al., 2019), this study focuses on understanding the extent to which hotel customers perceive the government's role as influential in driving their intention to make green purchases. Based on this reasoning, the study hypothesizes:

H₂: Perceived Role of Government positively predict Green Patronage Intention.

2.8. Attitude Towards Green Hotels and Green Patronage Intention

Attitudes are a crucial determinant of pro-environmental behavior, as highlighted by Ajzen's Theory of Planned Behavior (Dilotsotlhe, 2021). According to this theory, consumer beliefs shape attitudes, which in turn influence intentions and behaviors. Research has categorized attitudes into two main types: importance, which reflects consumer concerns and prioritization of environmental issues, and inconvenience, which considers the challenges consumers face when adopting environmentally friendly behaviors (Johnstone & Tan, 2015). In the context of green consumption, attitudes play a vital role in shaping behaviors. For instance, consumers' willingness to adopt energy-saving practices reflects their environmental attitudes, which are also influenced by perceived corporate responsibility for environmental sustainability (Cheah & Phau, 2011; Hossain et al., 2022). Green Patronage Intention, defined as a customer's preference, willingness, and likelihood to choose environmentally friendly products or services, aligns with this framework (Amin & Tarun, 2021; Hsu et al., 2017). The relationship between attitudes toward green products and purchasing intentions has been extensively studied. Consumers with positive attitudes toward environmentally friendly products are more likely to exhibit strong green purchasing intentions and corresponding behaviors (Alwitt & Pitts, 1992; Yadav & Pathak, 2017). For instance, research shows that consumers who identify as environmentally conscious are more likely to purchase organic or sustainable products (Sultan et al., 2018). Gender-based studies further highlight that, women with positive attitudes towards green initiatives often exhibit stronger Green Patronage Intentions (Mobrezi & Khoshtinat, 2016). In the hospitality sector, green attitudes significantly impact consumer behaviors, such as visiting green hotels, spreading positive word-of-mouth, and paying premium prices for eco-friendly services (Hameed et al., 2022). These findings underscore the critical role of attitudes in determining Green Patronage Intention, supporting theories like the Theory of Reasoned Action and the Theory of Planned Behavior (Ajzen & Fishbein, 1980). Given the robust link between green attitudes and green purchasing intentions, this study hypothesizes:

H₃: Attitude towards Green Hotels is positively and significantly related to Green Patronage Intention.

2.9. Green Patronage Intention and Green Patronage Behavior

Building on Ajzen's (1991) Theory of Planned Behavior (TPB), intention is regarded as the most direct predictor of behavior, representing an individual's readiness and determination to perform a specific action. Defined as "instructions that people give to themselves to behave in certain ways" (Triandis, 1979, p. 203), intention reflects both the cognitive commitment and the effort one is willing to exert to carry out a behavior. Behavioral intention, often measured through statements such as "I intend to" or "I plan to," serves as the cornerstone of understanding and predicting actual behaviors (Armitage & Conner, 2001). In the context of green behavior, the intention-behavior relationship has been explored extensively across various domains, including green purchasing intention (Azizan et al., 2013; Chen & Chang, 2012) and green consumption behavior (Tsai & Tsai, 2008). However, this relationship remains underexplored in the hospitality industry, particularly in the green hotel context. Research into green behavioral intentions has typically focused on visit intention (Yadav et al., 2016; Teng et al., 2015; Chen & Tung, 2014; Han et al., 2011), revisit intention (Han & Kim, 2010), and word-of-mouth intention (Han et al., 2011). Yet, the translation of these intentions into actual green consumption behaviors often lacks consistency, emphasizing the need for further investigation in this sector (Teng et al., 2015; Han et al., 2011). While studies like Tsai and Tsai (2008) have examined environmental ethics and green

consumer behaviors in green hotels, they reported only a marginal association between the variables. This underscores the critical role of intention, which often serves as a stronger predictor of behavior compared to attitude alone. For marketers, understanding the dynamics between Green Patronage Intentions and green consumption behavior can inform strategies to design impactful marketing campaigns that effectively bridge intention and behavior in hotel consumers. Recognizing the inextricable link between behavior and intention, and their mutual significance, this study posits the following hypothesis:

H₄: Green Patronage Intention, is positively and significantly related to Green Patronage Behavior.

2.10. The Mediating Effects of Green Patronage Intention

The mediating effects of the green patronage intention variable in the context of green consumer behavior have been studied to understand how it influences the relationship between antecedent factors and actual eco-friendly actions. Drawing on principle underlying Theory of Planned Behavior, Green patronage intention serves as a critical link that translates environmental attitudes, values, and beliefs into specific consumer behaviors towards green hotels or products. Research demonstrates that environmental attitudes and values significantly impact green patronage intention. For instance, Han et al. (2011) found that consumers' positive attitudes towards eco-friendly practices enhance their intention to patronize green hotels, which in turn affects their actual behavior (Han, 2011). Similarly, Kalyar et al. (2021) noted that green values and perceived benefits play a crucial role in shaping green patronage intentions, which mediate the relationship between these values and actual green purchasing behaviors (Kalyar, 2021). The study by Kim et al. (2018) highlights that social norm influence individuals' intention to engage in green behaviors, which subsequently affects their patronage decisions (Kim et al., 2018). This mediation effect underscores the importance of social influences in shaping consumers' intentions to support green initiatives. The relationship between green patronage intention and actual behavior is well-documented. For example, the work of Chen et al. (2020) illustrates that green patronage intention not only mediates but also enhances the likelihood of consumers engaging in environmentally friendly behaviors (Chen et al., 2020). This mediation effect emphasizes the role of intention as a precursor to actionable green behavior. Overall, these studies underscore the importance of green patronage intention as a mediator in the relationship between antecedent factors (environmental attitudes, role of government, and attitude towards green hotels) and actual green patronage behavior. Therefore, from the preceding discussion, the following hypotheses are advanced:

H_{5a}: Green Patronage Intention positively mediate the relationship between Environmental Concern and Green Patronage Behavior

H_{5b}: Green Patronage Intention positively mediate the relationship between Perceived Role of Government and Green Patronage Behavior

H_{5c}: Green Patronage Intention positively mediate the relationship between Attitude towards the Green Hotels and Green Patronage Behavior

3. METHODOLOGY

3.1. Participants and Procedure

The hotel sector is crucial to all economies, particularly in emerging markets, making it a focal point for researchers aiming to validate their frameworks. This study focuses on customers staying at Green five-star hotels in three major cities, Shanghai, Beijing, and Shenzhen, in China. A questionnaire based on prior studies was used to evaluate the proposed framework. Using a convenience sampling approach. G-power was utilized for sample size determination due to the unavailability of the sample frame (Ringle et al., 2020), consequently, the minimum number of samples required to obtain a good power level of 80% was determined to be 123. This study collected 515 surveys using Google Forms over six months, and 12 unfilled replies were excluded. Outlier tests were conducted (Mahalanobis, 1948), and 503 valid replies were obtained for analysis. The sample size was over 160, which is the minimum sample size recommended in PLS-SEM (Kock, 2018). The researchers obtained approval for the study after undergoing institutional review process to meet ethical standards. Consequently, the participants were notified that the privacy of their data was ensured, as this study was solely intended for educational use. Confidentiality was assured for respondents, as the research was conducted solely for scholarly objectives.

3.2. Analysis and Findings

The study employed partial least squares (PLS) modeling using SmartPLS version 4 (Becker et al., 2023), a variance-based approach suitable for examining complex relationships between observed and latent variables. This method, increasingly popular in social sciences and management (Guenther et al., 2023), enhances the explained variance of outcome variables (Hair et al., 2014) and is ideal for small samples, complex models, abnormal data, and formative measures (Benitez et al., 2020). To address Common Method Bias, full collinearity assessments following Kock & Lynn (2012) guidelines were conducted. The highest Variance Inflation Factor (VIF) as shown in Table 1, is 3.404 which is below the recommended threshold of 5 Hair et al. (2023), indicating minimal bias.

Table 1: Full collinearity.

Constructs	AtGH	GPI	EC	PRG	GPB
VIF	1.588	3.296	3.404	3.317	3.013

Note: AtGH = attitude toward green hotels, GPI = green patronage intention, EC = environmental concern, PRG = perceived role of Government, GPB = green patronage behavior

3.3. Demographics

This section comprises the demographic attributes of the participants. A set of five items were employed to collect personal details, encompassing gender, marital status, age, educational attainment, and household sizes. Each item's measurement method varies depending on its unique characteristics. For instance, gender involves a binary choice between male or female, while the remaining items offer multiple options for selection. See Table 2.

Table 2: Descriptive statistics of the respondents.

Variables	Frequency	Percentage
<i>Gender</i>		
Male	206	41
Female	297	59
Total	503	100
<i>Age</i>		
Less than 20	195	38.8
20-29	49	9.7
30-39	141	28
40-49	88	17.5
50-above	30	6
Total	503	100
<i>Marital Status</i>		
Single	137	27.2
Married	70	13.9
Divorced	129	25.6
Widowed	167	33.2
Total	503	100
<i>Educational Qualification</i>		
High School	89	17.7
Diploma/Certificate	123	24.5
Bachelor's Degree	110	21.9
Master's Degree	121	24.1
Doctorate Degree	60	11.9
Total	503	100
<i>Employment sector</i>		
Private Sector	147	29.2
Government Sector	138	27.4
Business Owner	139	27.6
Others	79	15.7
Total	503	100
<i>Frequency of stay at green hotel per year</i>		
Once a Year	100	19.9
2-3 times per year	91	18.1
4-5 times per year	183	36.4
More than 5 times per year	129	25.6
Total	503	100
<i>Income level</i>		
1000 USD or Below	253	50.3
1000-2000 USD	129	25.6
2000 USD - Above	121	24.1
Total	503	100

3.4. Measurement Model

Researchers are encouraged to assess outer models to establish both validity and reliability when evaluating reflective items (Hair Jr et al., 2022). This process involves analyzing indicator loadings, composite reliability (CR), and average variance extracted (AVE) to confirm convergent validity, ensuring that the items accurately reflect the intended constructs. Following Anderson & Gerbing's (1988) two-phase approach, the study first assessed the measurement model to validate and confirm the reliability of the instruments (Ramayah et al., 2018), followed by an evaluation of the structural model to test the proposed hypotheses. The measurement model was examined using loadings, AVE, and CR. Acceptable thresholds include loadings ideally above 0.5, 0.6, 0.7, or 0.708; AVE values of ≥ 0.5 ; and CR values of ≥ 0.7 . As shown in Table 3, all AVEs exceeded 0.5, and CRs surpassed 0.7. Although a few loadings were slightly below 0.708, they were still deemed acceptable and valid.

Table 3: Convergent validity.

Variables	Items	Loadings	CA	CR-RHO-A	CR-RHO-C	AVE					
Attitude Towards Green Hotels	AtGH1	0.634	0.85	0.863	0.89	0.576					
	AtGH2	0.661									
	AtGH3	0.817									
	AtGH4	0.835									
	AtGH5	0.757									
	AtGH6	0.824									
Environmental Concern	EC1	0.801	0.888	0.894	0.915	0.642					
	EC2	0.862									
	EC3	0.826									
	EC4	0.699									
	EC5	0.818									
	EC6	0.794									
Green Marketing Mix	GMM1	0.632	0.933	0.936	0.941	0.534					
	GMM10	0.731									
	GMM11	0.742									
	GMM12	0.736									
	GMM13	0.772									
	GMM14	0.762									
	GMM16	0.779									
	GMM2	0.728									
	GMM3	0.755									
	GMM4	0.694									
	GMM5	0.702									
	GMM6	0.788									
	GMM7	0.722									
	GMM8	0.671									
	Green Patronage Behavior	GPB1					0.779	0.887	0.888	0.914	0.639
		GPB2					0.776				
GPB3		0.746									
GPB4		0.814									
GPB5		0.843									
GPB6		0.833									
Green Patronage Intention	GPI1	0.779	0.859	0.864	0.899	0.640					
	GPI2	0.835									
	GPI3	0.818									
	GPI4	0.828									
	GPI5	0.736									
Perceived Role of Government	PRG1	0.838	0.797	0.8	0.881	0.711					
	PRG2	0.854									
	PRG3	0.838									

Additionally, the study utilized HTMT to assess discriminant validity, with recommended thresholds of ≤ 0.85 or ≤ 0.90 . As shown in Table 4, all HTMT ratios met the stricter threshold of ≤ 0.85 (Ringle et al., 2023). Overall, the study satisfied all validity and reliability requirements.

Table 4: HTMT.

Constructs	1	2	3	4	5
AtGH					
EC	0.672				
GMM	0.557	0.763			
GPB	0.671	0.862	0.713		
GPI	0.604	0.858	0.859	0.861	
PRG	0.578	0.809	0.840	0.758	0.877

3.5. Structural Model

The structural model, as outlined by Hair et al. (2014), represents the relationships between constructs within the proposed framework, illustrating links between endogenous and exogenous latent variables. In this study, organizational resilience was the exogenous variable, and organizational sustainability was the endogenous variable. Multivariate skewness and kurtosis were evaluated following Cain et al. (2017), revealing non-multivariate normality based on Mardia's (1970) skewness ($\beta = 5.30676$, $p < 0.01$) and kurtosis ($\beta = 58.48252$, $p < 0.01$). The model employed a 10,000-sample bootstrapping method to report path coefficients, standard errors, t-values, and p-values, as suggested by Becker et al. (2023) and Ramayah et al. (2018). To address criticisms by Hahn & Ang (2017) regarding sole reliance on p-values, the study incorporated benchmarks such as confidence intervals and effect sizes alongside p-values to evaluate hypothesis significance.

As shown in the table 4, the effects of the relationship between all the independent variables and Green Patronage Intention were found to be positive and significant. Attitude Towards Green Hotels \rightarrow Green Patronage Intention ($\beta = 0.063$, $t = 2.090$, $p = 0.018$), Environmental concern \rightarrow Green Patronage Intention ($\beta = 0.285$, $t = 5.750$, $p = 0.000$), as well as Perceived Role of Government and Green Patronage Intention are statistically significant ($\beta = -172$, $t = 3.734$, $p = 0.000$), hence, H1, H2, and H3 were all supported. Similarly, the relationship between Green Patronage Intention \rightarrow Green Patronage Behavior was also positive and significant

at ($\beta = 0.374$, $t = 6.444$, $p = 0.000$), thus, H4 is also supported.

On the other hand, the indirect relationships (mediating effect) were also examined. Therefore, from the result in table 4, using bootstrapping procedure with 10,000 subsamples, EC \rightarrow GPI \rightarrow GPB ($\beta = 0.107$, $t = 5.036$, $p = 0.000$), PRG \rightarrow GPI \rightarrow GPB ($\beta = 0.064$, $t = 3.181$, $p = 0.001$), and AtGH \rightarrow GPI \rightarrow GPB ($\beta = 0.024$, $t = 1.881$, $p = 0.030$), were all positive and significant and further, the lower and upper limits of confidence intervals for all stated relationships do not contain zero in-between. It is, therefore, concluded that hypotheses H5a to H5c, were well supported.

Table 4: Results of the Hypotheses Testing (Direct and Indirect).

Hypotheses	Relationships	Std. Beta	Std. Dev.	t-values	P-values	Confidence intervals		Decision
						LL-CI	UL-CI	
H1	EC \rightarrow GPI	0.285	0.05	5.75	0.000	0.201	0.363	Supported
H2	PRG \rightarrow GPI	0.172	0.046	3.734	0.000	0.097	0.248	Supported
H3	AtGH \rightarrow GPI	0.063	0.03	2.09	0.018	0.013	0.112	Supported
H4	GPI \rightarrow GPB	0.374	0.058	6.444	0.000	0.275	0.467	Supported
H5a	EC \rightarrow GPI \rightarrow GPB	0.107	0.021	5.036	0.000	0.076	0.147	Supported
H5b	PRG \rightarrow GPI \rightarrow GPB	0.064	0.02	3.181	0.001	0.037	0.104	Supported
H5c	AtGH \rightarrow GPI \rightarrow GPB	0.024	0.013	1.881	0.030	0.005	0.047	Supported

As outlined earlier, the assessment of the structural model follows a five-step process, with the remaining steps also considered. A VIF test was performed to assess lateral collinearity, revealing values ranging from 1.588 to 3.404, which are below the acceptable limit of 5 (Abdullahi, Mohamed, et al., 2024). Additionally, the model's R^2 values were examined to determine the in-sample predictive power, where moderate effects (0.25), weak effects (0.50), and strong effects (0.75) were used as benchmarks (Hair et al., 2019). The assessment of the structural model's quality showed that the model explains 68.2% ($R^2 = 0.682$) of the variance in GPB, indicating a satisfactory predictive accuracy for the model as well as 70.5% ($R^2 = 0.705$) in GPI. The effect sizes (f^2) of the constructs in the model were assessed using Cohen's f^2 (Cohen, 1988) to illustrate the varying contributions of predictors to ENVP, Table 5. GHRM had a substantial effect on ENVP with an effect size of ($f^2 = 0.045$) and a strong effect on EMPC with ($f^2 = 0.337$). Meanwhile, EMPC had a smaller but positive effect on ENVP, with an effect size of ($f^2 = 0.041$). Cohen (1988) considers f^2 values of 0.35 to be large, 0.15 to be medium, and 0.02 to be small. The effect size results were presented explicitly in Table 5.

Table 5: Effect size (f^2).

Constructs	Green patronage behavior	Green patronage intention	Effect Size
Attitude towards green hotels		0.009	Trivial
Environmental concern		0.090	Small
Perceived role of Government		0.034	Small
Green patronage intention	0.130		Small

3.6. PLS-Predict Assessment

Shmueli et al. (2019) introduced PLS-Predict, a technique using a holdout sample to predict outcomes at both item and construct levels. They implemented a 10-fold cross-validation process to assess predictive relevance, noting that when differences between PLS and linear model (LM) predictions (PLS-LM) are consistently small, it indicates strong predictive power. Larger differences suggest that predictive relevance cannot be confirmed, whereas mostly lower PLS errors suggest moderate predictive ability, and a minority of lower PLS errors indicate weak predictive capability (Abdullahi, Dhahi, et al., 2024). As demonstrated in Table 6, where the PLS model's errors are generally lower than those of the LM model, it can be concluded that the model in this study possesses a stronger level of predictive accuracy.

Table 6: PLS-predict.

Constructs	Q^2 predict	PLS-SEM_RMSE	LM_RMSE	PLS-SEM - LM
GPB1	0.382	0.759	0.896	-0.137
GPB2	0.375	0.798	0.905	-0.107
GPB3	0.374	0.857	1.089	-0.232
GPB4	0.328	0.921	1.225	-0.304
GPB5	0.407	0.829	0.926	-0.097
GPB6	0.427	0.788	0.898	-0.110
GPI1	0.386	0.790	0.888	-0.098
GPI2	0.499	0.715	0.799	-0.084
GPI3	0.489	0.660	0.859	-0.199
GPI4	0.444	0.764	0.835	-0.071
GPI5	0.303	0.765	0.891	-0.126

Source: Strong Predictive Power.

4. DISCUSSIONS AND IMPLICATIONS

The findings presented indicate a robust relationship between various independent variables and Green Patronage Intention (GPI), with significant implications for both theory and practice in the field of sustainable consumer behavior. The positive and significant effects of Attitude Towards Green Hotels, Environmental

Concern, and Perceived Role of Government on GPI ($\beta = 0.063$, $\beta = 0.285$, and $\beta = -0.172$ respectively) suggest that these factors play a crucial role in shaping consumer intentions towards green patronage. This aligns with the Theory of Planned Behavior (TPB), which posits that attitudes, subjective norms, and perceived behavioral control significantly influence behavioral intentions (Emekçi, 2019; Teng et al., 2013). Specifically, the strong impact of Environmental Concern on GPI corroborates previous research that identifies environmental concern as a key predictor of green consumer behavior (Emekçi, 2019; Weldemariam & Okbagaber, 2023; Teng et al., 2014). The support for hypotheses H1, H2, and H3 emphasizes the need for further theoretical exploration of how these variables interact within the TPB framework. For instance, the mediating role of GPI in the relationship between Environmental Concern and Green Patronage Behavior (GPB) ($\beta = 0.107$) highlights the importance of understanding the psychological mechanisms that drive consumer behavior in sustainable contexts (Tan et al., 2018; Teng & Wu, 2019). This finding is particularly relevant for empirical research, as it suggests that enhancing consumers' environmental concerns could lead to increased green patronage behaviors, thereby informing marketing strategies and policy-making aimed at promoting sustainability (Al-Kumaim et al., 2021; Tan, 2022). Moreover, the significant mediating effects of GPI on the relationships between the independent variables and GPB ($\beta = 0.064$ for Perceived Role of Government and $\beta = 0.024$ for Attitude Towards Green Hotels) further underscore the complexity of consumer decision-making processes in the context of green consumption (Tan, 2022; Wang et al., 2020). These results suggest that while direct influences are important, the pathways through which these influences operate are equally critical. This insight can guide future research to delve deeper into the interplay of these variables, potentially leading to the development of more nuanced models of consumer behavior that incorporate mediating and moderating factors (Majeed & Kim, 2022; Tung et al., 2017).

From a practical standpoint, the findings indicate that stakeholders, including hotel managers and policymakers, should prioritize fostering positive attitudes towards green initiatives and enhancing environmental concerns among consumers. For instance, the role of government in shaping consumer attitudes towards green products is significant, as evidenced by the positive relationship between Perceived Role of Government and GPI (Al-Kumaim et al., 2021; Amin & Tarun, 2020). This suggests that effective government policies and communication strategies can enhance consumer trust and willingness to engage in green patronage behaviors, thereby contributing to broader sustainability goals (Xiang & Jianzhong, 2021). In conclusion, the positive and significant relationships identified in this study not only support existing theoretical frameworks but also provide actionable insights for practitioners aiming to promote green consumption. Future research should continue to explore these dynamics, particularly the mediating effects of consumer attitudes and the role of external stakeholders in shaping green patronage intentions and behaviors.

4.1. Conclusions, Limitations, and Scope for Future Research

The findings of this cross-sectional study provide evidence supporting the positive relationships between various independent variables and Green Patronage Intention (GPI). Specifically, attitudes towards green hotels, environmental concern, and the perceived role of government were found to significantly influence GPI, with respective coefficients of $\beta = 0.063$, $\beta = 0.285$, and $\beta = -0.172$, all at $p < 0.05$. This supports hypotheses H1, H2, and H3. Furthermore, the study established a significant positive relationship between GPI and Green Patronage Behavior (GPB) ($\beta = 0.374$, $p < 0.000$), thereby supporting hypothesis H4. The mediating effects of environmental concern, perceived role of government, and attitudes towards green hotels on the relationship between GPI and GPB were also confirmed, with all mediating relationships showing significant positive effects. This reinforces the importance of these factors in shaping consumer intentions and behaviors towards green hotels, aligning with previous literature that emphasizes the role of environmental concern and attitudes in consumer decision-making processes (Tan, 2022; Eid et al., 2020; Sultana et al., 2022).

Despite the significant findings, this study has several limitations that should be acknowledged. Firstly, the cross-sectional design limits the ability to infer causality between the variables. Longitudinal studies are recommended to better understand the dynamics of consumer attitudes and behaviors over time (Teng et al., 2014; Yang & Gao, 2019). Secondly, the sample may not be representative of the broader population, as it may be limited to specific demographics or geographic locations. Future research should aim to include a more diverse sample to enhance the generalizability of the findings (Yarimoğlu & Gunay, 2019; Sultana et al., 2022). Additionally, while the study focused on patronage intention, it did not measure actual patronage behavior, which could provide deeper insights into the effectiveness of green marketing strategies (Teng et al., 2014; Teng et al., 2018). Lastly, the reliance on self-reported measures may introduce bias, as participants may respond in socially desirable ways rather than reflecting their true intentions or behaviors (Alyahia, 2024).

Future research should explore several avenues to build upon the findings of this study. First, investigating the actual patronage behaviors of consumers in relation to their intentions would provide a more comprehensive understanding of the effectiveness of green marketing initiatives (Teng et al., 2014; Teng et al., 2018). Additionally, examining the role of external factors such as social norms, peer influence, and marketing communications in shaping GPI and GPB could yield valuable insights into consumer behavior (Acampora et al., 2022). It would also be beneficial to explore the impact of cultural differences on green patronage intentions, as consumer attitudes towards sustainability may vary significantly across different cultural contexts (Yarimoğlu & Gunay, 2019). Finally, longitudinal studies could be employed to assess how changes in environmental policies or

societal attitudes towards sustainability influence consumer behavior over time (Teng et al., 2014; Yang & Gao, 2019). Such research could contribute to the development of more effective strategies for promoting green hotels and enhancing sustainable practices within the hospitality industry.

Data Availability Statement:

The data supporting the findings of this study are available upon reasonable request by contacting the corresponding author, WZ.

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