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Customer Experience and Sustainable Development among Hostels: The Mediating Role of Green Innovation

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Abstract

Purpose: While customer experience (CE) is a crucial marketing concept, the expanding body of research in this area has resulted in substantial fragmentation and theoretical confusion. This is particularly evident in its relationship with other performance constructs. Additionally, little is known about how CE contributes to sustainable development (SD) in the hotel industry. To address the gaps in existing literature and contribute to theory, this study examined how CE influences SD through green innovation (GI).

Methodology: It was a quantitative study, employing the cross-sectional design. Data was collected from 197 individuals in leadership/management/supervisory roles in selected hotels in Ghana, using a structured questionnaire. The Partial Least Squares Structural Equation Modeling (PLS-SEM) technique was employed to estimate the hypothesised model on CE, GI, and SD.

Findings: The findings showed a significantly positive direct relationship between CE and SD, and indirect relationship through GI.

Unique Contribution to Theory, Policy and Practice: The study's novelty lies in the integration of GI as a mechanism through which CE influences SD. It was demonstrated that to promote green innovation, and then sustainable development, hotels should enhance customer experience. It was thus recommended that hotels in Ghana invest in training programmes for employees to enhance their understanding of customer experience, creating positive sustainable and green practices.

Keywords: *Customer Experience, Sustainable Development, Hostels, Green Innovation*

Introduction

For 50 years and accounting, the concept of sustainable development (SD) has been on the global agenda. While it has been broadly accepted among nations, governments, organisations, and individuals (Mensah, 2019; Purvis et al., 2019), there has not been any universally endorsed one-size-fits-all terminology or phraseology that encapsulates what sustainable development entails (Westin et al., 2022). Consequently, terms such as corporate social responsibility (CSR), corporate sustainability (CS), and sustainability performance (SP), among others, are commonly used to refer to what SD means (Ashrafi et al., 2018; Moisescu, 2018). The common ground is that the focus of these diverse but related terms is to ensure a development that meets the needs of the present generation without compromising the ability of future generations to meet their needs (World Commission on Environment and Development [WCED], 1987). The Triple Bottom Line (TBL) framework that draws on economic, social and environmental factors has widely been considered a gauge for sustainable development (Elkington, 1999; Topfer, 2000).

Customer experience (CE), which revolves around brand image, expectations, product quality, service quality, perceived value, satisfaction and loyalty (Eklöf et al., 2017; Westin et al., 2022), may contribute to SD, according to the transition theory (Meleis et al., 2010). The institutional theory, on the other hand, argues that CE may contribute to the development of green innovation (GI), which may, in turn, lead to enhancement of sustainable development. Yu et al. (2021) explained green innovation as development and application of new products, services, processes, or technologies that have positive environmental impacts and contribute to sustainability. A systematic literature review conducted by Takalo and Tooranloo (2021) also indicated that green innovation aims to address environmental challenges, reduce resource consumption, minimise negative ecological footprints, and promote the overall well-being and sustainability of the planet.

Studies focusing on enhancing sustainable development are essential for several reasons. First, sustainable development ensures the responsible stewardship of resources, helping to address environmental degradation and mitigate the impact of climate change (Spychalska-Wojtkiewicz, 2020). Second, it promotes social equity by addressing inequalities and ensuring that development benefits are distributed equitably across diverse populations (Huang et al., 2022). Third, sustainable development promotes economic resilience by encouraging practices that are financially viable in the long term, reducing dependency on finite resources (United Nations [UN], 2015). Fourth, by integrating environmental, social, and economic considerations, studies on sustainable development contribute to a holistic understanding of human activities and their consequences, guiding policymakers and businesses toward more inclusive, environmentally friendly, and economically viable practices (Mihardjo & Sasmoko, 2019).

Taking the above into account, it could be said that promoting sustainable development through factors of customer experience and green innovation, as posited by the transition and

institutional theories, may lead to inclusive, eco-friendly, and economically viable practices within business organisations. Empirically, Westin et al. (2022) revealed that while sustainable development may drive customer experience, customer experience also serves as a significant contributor to sustainability. Spychalska-Wojtkiewicz (2020) also reported a noteworthy link between sustainable development and customer value management. Aasa et al. (2016) had found a significant positive effect of green innovative banking 3p's [products, paths and processes] on sustainable development. In their study, Yu et al. (2021) indicated that hotels' eco-friendly activities formed a positive brand image, which in turn had a positive effect on brand love and respect. Mihardjo and Sasmoko (2019) also documented that customer experience shapes sustainable development in Indonesian ICT industry.

The foregoing, as gleaned from an extensive review of extant related empirical studies, revealed that there is very limited empirical evidence on how customer experience influences sustainable development. The closest study looked at the interplay between customer experience and organisational agility driven business model innovation to shape sustainable development in Indonesian ICT industry (Mihardjo & Sasmoko, 2019). Similarly, how green innovation serves as a mechanism through which customer experience enhances sustainable development has not yet been explored. Again, in the consideration of issues related to the customer experience-green innovation-sustainable development, not much attention has been given to the hotel industry, especially in Ghana. The few related studies available include Yu et al. (2021), who investigated whether environmentally sustainable development and green innovation in hotels lead to the formation of a positive brand image and price premium. Additionally, Appiah et al. (2023) recently explored sustainable energy systems and green hotel practices in hotels within the Tamale Metropolis of Ghana.

Why is the hotel industry so important in the study of sustainable development? One, the hotel industry has been growing rapidly over the last few decades, offering a variety of conveniences, such as accommodations, meals and exhibitions, among others, to customers (Yu el al., 2021). While this rapid growth provides numerous benefits, it also creates several problems, as it generates environmental issues such as greenhouse emissions, spoiled food, and polluted water, which are considered significant threats to the environment (Wang et al., 2018). Given the high value placed on sustainability and eco-friendly practices in the modern tourism and hospitality industry, coupled with the increasing customer demand for environmentally friendly products and services, these unpalatable impacts and threats are highly likely to wreak havoc on various aspects of hotels, including their profitability (Trang et al., 2019).

Two, the expansion of hotels has led to increased employment opportunities, promoting economic growth in local communities (Abdou et al., 2020). Jobs created span from housekeeping to management, providing livelihoods for individuals (Chung, 2020). Additionally, the hotel industry stimulates economic activities by sourcing goods and services locally, creating a ripple effect that benefits nearby businesses (Thommandru, 2023). As hotels thrive, they

contribute to tax revenues for local governments, further supporting public services and infrastructure development (Asadi et al., 2020).

Three, the hotel industry plays a vital role in community engagement and support, contributing to social development. This includes initiatives such as partnering with local charities, organising community events, and supporting education and healthcare projects (Úbeda-García et al., 2021). Moreover, in attempt to enhance social sustainability, most hotels prioritise employee welfare through fair wages, training programmes, and opportunities for career advancement (Chung, 2020). As Legrand et al. (2022) put it, they also embrace diversity and promote inclusive practices, which not only enrich the workplace culture, but also contribute to social harmony. Furthermore, hotels help in the preservation of local culture and heritage, ensuring the identity and authenticity of destinations (Úbeda-García et al., 2021).

Despite the compelling justifications for focusing empirical attention on hotels in the study of sustainable development, there has been little effort to explain the complex interplays that may exist between customer experience, green innovation, and sustainable development. Evidence indicates that the level of green innovation within the hotel industry remains low (Asadi et al., 2020; Sharma et al., 2020; Wang, 2022). Similarly, customer experience leaves much to be desired in the hotel industry (Kim & Kim, 2022; Nuseir, 2021; Rahimian et al., 2021). This underscores the need to investigate the relevance of improving these constructs, specifically examining how significantly they may contribute to sustainable development. This study, viewed through the lenses of transitional and institutional theories, argues that customer experience may directly influence sustainable development and indirectly affect it through green innovation. Specifically, the study assesses the effect of customer experience on sustainable development among hotels in Ghana, and the mediating role of green innovation in the link between customer experience and sustainable development.

This study's idiosyncratic contribution lies in assessing customer experience and green innovation within hotels to support sustainable development, particularly in a less-industrialised nation. Its uniqueness lies in investigating not only the direct effect of customer experience on sustainable development but also the mediating role played by green innovation, while stretching the applicability of the transition and institutional theories. By specifically focusing on the Ghanaian hotel industry, the study plugs a gap in the existing literature, providing insights that are particularly relevant to the socio-economic and environmental dynamics of a developing nation. Moreover, the exploration of green innovation as a mediator adds depth to the understanding of how customer experience influences sustainable development outcomes. This approach acknowledges the significance of eco-friendly practices in the hospitality sector and underscores the potential of green innovation to act as a catalyst for sustainable development within the unique context of Ghana. The findings are expected to offer practical implications for policymakers, hotel management, and scholars interested in encouraging sustainable practices

and enhancing customer experiences within the hospitality sector of emerging economies like Ghana.

Theoretical Framework and Hypotheses Development

This study is grounded in the frameworks of the transition and institutional theories, with notable developments often attributed to Geels and Schot (2007) for the transition theory and Meyer and Rowan (1977) for institutional theory. The direct relationship between customer experience and sustainable development is explained through the lens of the transition theory. The transition theory offers a valuable lens to understand the effect of customer experience on sustainable development within hotels. According to this theoretical perspective, the hotel industry undergoes a transformative process driven by changing customer expectations and societal values (Brown, 2021). As customers increasingly prioritise eco-friendly practices and sustainable experiences, hotels are compelled to transition towards more environmentally conscious operations (Trang et al., 2019). The positive customer experience becomes a driving force in this transition, as satisfied guests are more likely to support and advocate for sustainable practices.

The theory posits that the evolution towards sustainability is not only a response to regulatory pressures but is significantly influenced by the demand and preferences of customers (Meleis et al., 2010). Therefore, by focusing on customer experience, hotels can strategically align their practices with sustainable development goals, fostering a harmonious relationship between customer satisfaction and environmentally responsible operations. While the transition theory accentuates the pivotal role of customer experience in shaping the trajectory of sustainable development within the hotel industry, it has limitations in fully capturing the institutional dynamics that influence the effect of customer experience on sustainable development through green innovation within hotels (Yu et al., 2021).

The transition theory primarily focuses on the niche-level innovations and the role of grassroots initiatives, often overlooking the broader institutional context that shapes and constrains these transitions (Schlossberg, 2011). Institutions, as emphasised in the institutional theory, encompass formal and informal rules, norms, and practices that influence organisational behaviour (Peters, 2022). According to the institutional theory, customer experience may influence sustainable development through green innovation within hotels by navigating and conforming to institutional pressures (Sahin & Mert, 2023). Positive customer experiences create demands for environmentally conscious practices, aligning with institutional norms favouring sustainability. In response to these demands and pressures, hotels may incorporate green innovations, such as eco-friendly amenities and energy-efficient technologies, to meet customer expectations and adhere to institutional standards. This institutional alignment not only enhances customer satisfaction but also ensures hotels remain competitive within an industry increasingly valuing sustainable practice. In essence, the institutional theory highlights the interplay between customer experience and sustainable development within the hotel industry, with green

innovation playing a catalytic role. Customer experience, green innovation, and sustainable development are conceptually discussed below.

Customer experience is multidimensionally defined to include brand image, expectations, product quality, service quality, perceived value, satisfaction and loyalty (Eklöf et al., 2017; Westin et al., 2022). It is the overall interaction and relationship that a customer has with a business or brand throughout the entire customer journey (Eklöf et al., 2017). It encompasses every touch point and interaction a customer has with a company, from the initial awareness and consideration stages through the purchase process and ongoing post-purchase support (Godovykh & Tasci, 2020). According to Hoyer et al. (2020), a positive customer experience is crucial for building customer loyalty, enhancing brand reputation, and ensuring positive word-of-mouth referrals. In today's competitive business environment, organisations often prioritise delivering exceptional customer experiences to differentiate themselves and create lasting relationships with their customer base (Keiningham et al., 2020).

In this study, customer experience is operationalised as a unidimensional construct that integrates defining indicators across brand image, expectations, product quality, service quality, perceived value, satisfaction, and loyalty (Becker & Jaakkola, 2020; Godovykh & Tasci, 2020; Mihardjo et al., 2019). These indicators collectively reflect emotional, cognitive, sensorial, and conative factors, as articulated by Godovykh and Tasci (2020). The unidimensionality approach aligns with Godovykh and Tasci (2020), who expressed the view that much of customer experience research tends to overlook the totality of the customer experience, often focusing on specific components while neglecting others. Consequently, this study conceptualises customer experience as the extent to which a customer forms perceptions, expectations, and judgments about a brand based on the interplay of factors such as brand image, expectations, product quality, service quality, perceived value, satisfaction, and loyalty (Mihardjo et al., 2019).

Regarding green innovation, also known as eco-innovation, the focus is on the development and implementation of new products, services, processes, or technologies that have a positive impact on the environment (Yu et al., 2021). The goal is to address environmental challenges, reduce resource consumption, minimise pollution, and promote overall sustainability (Song & Yu, 2018). Specifically, green innovations aim to optimise the use of resources, such as energy, water, and raw materials (Castellacci & Lie, 2017). Overall, green innovation is a holistic approach to addressing environmental challenges and promoting a more sustainable and resilient future (Chen & Chen, 2017). It takes into account collaboration across various sectors, including business, government, and research institutions, to develop and implement solutions that balance economic, social, and environmental considerations (Chu et al., 2019). The present study operationalises green innovation as the extent to which an organisation introduces and integrates environmentally sustainable practices, technologies, and strategies into their operations, products, and services (Song & Yu, 2018).

Finally, sustainable development revolves around a development that meets the needs of the present generation without compromising the ability of future generations to meet their needs (WCED, 1987). It is hinged on the pillars of economic, social and environmental factors, usually termed as the Triple Bottom Line (TBL) framework (Mensah, 2019; Westin et al., 2022). The economic pillar can be defined as a production system that meets current consumption levels without compromising future needs (Basiago, 1998). Social sustainability aims to enhance social equity and justice, labour practices, and organisational governance through economic growth while preserving environmental factors [Basiago, 1998; Mensah, 2019]. Lastly, environmental sustainability is characterised as a governance structure for natural capital, constrained by economic inputs and outputs (Wang et al., 2019). It involves balancing development and preserving a productive, resilient environment capable of supporting human life (Wang et al., 2019). Sustainable development, in this study, is conceptualised as an integrated concept where each pillar is a dependent function of the others (Yu et al., 2021). Thus, sustainable development has been operationalised in this study as the extent to which organisational or human activities meet present needs without compromising the ability of future generations to meet their own needs, recognising the interplays among economic, social and environmental factors (Moisescu, 2018). The following sections summarise related empirical studies on customer experience, green innovation, and sustainable development.

Customer experience and sustainable development

Empirical studies investigating the relationship between customer experience and sustainable development are scarce. Westin et al. (2022), for example, associated customer experience with sustainable development, suggesting that sustainable development reflects elements of customer experience. Using SmartPLS, Mihardjo et al. (2019) analysed data from 195 respondents purposefully sampled from a population of 542 to assess the relationships between customer experience, organisational agility, and sustainable development. Among their findings, they reported a significant indirect effect of customer experience orientation on transformational performance and business model innovation, defining sustainability in their study. Pei et al. (2020) examined whether the effect of customer experience on customer satisfaction creates sustainable competitive advantage. Collecting 288 questionnaires from two different shopping situations, they employed multiple regression analysis to test hypotheses, revealing that customer experience with staff service, shopping environment, and shopping procedure positively influences customer satisfaction.

Chen and Lin (2015), who looked at the impact of customer experience and perceived value on sustainable social relationship in blogs, had also revealed that customer experience and perceived value not only directly influenced satisfaction and intention to continue to use blogs, but also indirectly affected customers'/citizens' sustainable social relationship with blogs through the mediation of satisfaction and continuance intention. Considering these empirical studies, it is evident that there is limited empirical evidence on the direct relationship between

customer experience and sustainable development within hotels. However, prior findings suggest that customer experience could significantly contribute to sustainable development (Chen & Lin, 2015; Pei et al., 2020). Moreover, the theoretical arguments advanced earlier indicate that customer experience may drive sustainable development within organisations. Therefore, this study hypothesizes that:

Hypothesis 1 (H1): Customer experience (CE) has a significant positive effect on sustainable development (SD).

Customer experience, green innovation, and sustainable development

A study conducted by Mihardjo et al. (2019) assessed the relationship between digitalisation, customer experience, satisfaction, and performance in the hotel industry of Indonesia. They also examined the role of green information system and service innovation. The results showed that green information systems have significantly positive influence on customer experience and environmental performance. Service information was also found to significantly influence. Similarly, Mihardjo and Alamsjah (2020), focusing on the Indonesian ICT industry, assessed the role of digitalisation through green information system on the relationship between organisational agility, customer experience, and digital service innovation to achieve sustainable performance. A total of 195 Indonesian ICT firms were employed in the study. Using PLS-SEM for the analysis, the results revealed that green information system has a significant moderating role in accelerating the development of digital service information on the relationship with customer experience and organisational agility, while sustainable performance is positively and significantly influenced by customer experience, organisational agility and digital service information.

Wang et al. (2022) also investigated green innovation and sustainable development goals through green knowledge management, moderating the role of organisational green culture. Analysing the data collected through structural equation modelling, green knowledge management was found to have strengthened organisational capabilities to achieve green innovation and sustainable development goals. Furthermore, green innovation was found to be a significant positive predictor of corporate sustainable development. It was also reported that organisational green culture strengthens the relationship between green knowledge management and green innovation for achieving sustainable development goals.

From the preceding studies, it is apparent that no study has specifically analysed the mediating role of green innovation in the relationship between customer experience and sustainable development. While customer experience, sustainability, and green innovation were identified to positively influence or be influenced by other constructs, the exploration of how customer experience influences sustainable development through green innovation within organisations remains an unexplored territory. This gap persists despite theoretical arguments

suggesting a possible relationship (Meleis et al., 2010; Sahin & Mert, 2023). This study, thus, theorizes that:

Hypothesis 2 (H2): Green innovation (GI) mediates the relationship between customer experience (CE) and sustainable development (SD).

Building upon the hypothesised relationships outlined above, we have constructed the following conceptual framework. The connection denoted as H1 represents the first hypothesis, while H2 signifies the second hypothesis.

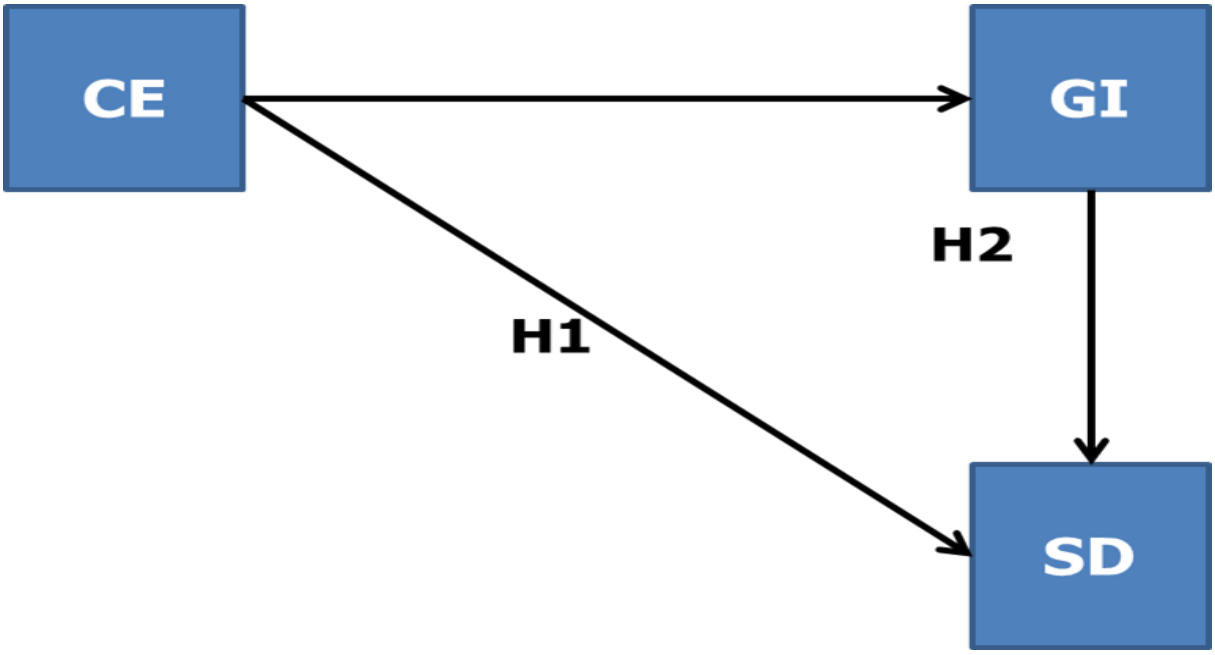


Figure 1: Conceptual framework of customer experience (CE), green innovation (GI), and sustainable development (SD)

Source: Author's construct (2024)

Methods and Materials

The study adopted a quantitative approach, utilizing a cross-sectional survey design to gather quantifiable data on customer experience, green innovation, and sustainable development (Pei et al., 2020). This design was chosen based on its precedent in prior studies (Mihardjo et al., 2019; Pei et al., 2020; Wang et al., 2020). The target population comprised individuals in leadership or supervisory roles within hotels registered with the Ghana Tourism Authority (GTA). Following outreach to 512 registered hotels, 203 managers/owners were identified as willing participants, factoring in reachability, availability, and accessibility, as some hotels were unreachable through the details provided by GTA. Consequently, a non-probabilistic sampling approach became more practicable. Structured questionnaires were distributed to the 203

managers/owners, with a 97% return rate, rendering them suitable for analysis (Phillips & Phillips, 2004).

The questionnaire, designed to assess customer experience, green innovation, and sustainable development, featured measurement items on a 5-point Likert-type scale, ranging from least agreement (1) to highest agreement (5). Specifically, seven items on customer experience were adapted from Westin et al. (2022), four items on green innovation were sourced from Song and Yu (2018), and six items on sustainable development were drawn from Turker (2009) and Öberseder et al. (2014).

The collected data underwent processing to facilitate analysis. Descriptive analysis, incorporating frequencies and percentages, was conducted to present demographic statistics of the respondents. Subsequently, PLS-SEM analysis was performed to test the hypothesised relationships, encompassing both measurement and structural models. The demographic information revealed that 41.4% of respondents were women, while 58.6% were men. In terms of age distribution, 13.6% were in their 20s, 81% in their 30s, 4.5% in their 40s, and 0.9% were above 40. Additionally, almost 92% possessed a bachelor's degree, with 8.3% holding postgraduate certifications.

Results

This section presents the measurement model results, and the structural model results and hypotheses testing.

Measurement model results

Measurement model specification ensures that constructs have adequate indicator loading, convergent validity, composite reliability, and discriminant validity (Becker et al., 2015). The results in relation to the measurement model are displayed in Tables 1.

Table 1: Loadings, CA, AVE, and VIF

Constructs	Loading	CA	CR (rho_a)	CR (rho_c)	AVE	VIF
CE (M = 3.75, SD = 1.03)	-	0.905	0.907	0.919	0.569 (0.754[a])	1.354
CE1	0.649					1.780
CE2	0.633					1.664
CE3	0.694					2.031
CE4	0.627					1.990
CE5	0.722					2.201
CE6	0.601					2.025
CE7	0.647					2.103
GI (M = 3.58, SD = 0.64)	-	0.939	0.942	0.946	0.507 (0.712)	1.481
GI1	0.648					1.874
GI2	0.637					2.046
GI3	0.669					2.040
GI4	0.686					2.092
SD (M = 3.95, SD = 0.56)	-	0.877	0.879	0.900	0.576 (0.759)	1.150
SD1	0.657					1.768
SD2	0.685					1.844
SD3	0.669					1.689
SD4	0.705					1.823
SD5	0.600					1.550
SD6	0.670					1.893

Note: [a]= square root of AVE; CE = customer experience, GI = green innovation, SD = sustainable development; CA = Cronbach's alpha, CR = composite reliability, AVE = average variance extracted, VIF = variance inflation factor; loadings are significant at the 1% level

Source: Field survey (2024)

Table 1 specifically presents factor loadings, Cronbach's alpha, composite reliability, average variance extracted and the variance inflation factor. Factor loadings represent the degree to which items from a given correlation matrix relate with a given principal component. Typically, the loadings range between -1.0 and +1.0, where a higher value, in absolute terms, signifies a high correlation with a given factor (Pett et al., 2003). As could be seen, Table 1 contains the factor loadings for indicators across all the constructs used in this study. The results

showed that all the indicators were highly valid as the items retained had loadings from 0.600 (item SD5) to 0.722 (item CE5) with significance level at $p < 0.001$. These loadings were higher than the minimum of 0.5 suggested by Hair et al. (2016). The variance inflation factor (VIF) statistic assessed collinearity in the indicators (Fornell & Bookstein, 2018). The threshold for VIF is set between 5 and 10 (Alauddin & Nghiemb, 2010; Asthana, 2020; Gomez et al., 2016; Hair et al., 2016). The results presented in Table 1 showed that the indicators did not suffer from multicollinearity, since none of the VIFs was more than either 5 or 10.

Regarding reliability of the constructs (i.e., the latent variables), the Cronbach's Alpha (CA) statistics ranged from 0.877 to 0.939, indicating that the constructs were valid, considering the minimum threshold of 0.7 suggested by Sarstedt et al. (2020). In like manner, all the composite reliability (CR) coefficients were higher than the 0.70 minimum mark suggested by prior empirical studies (Hair et al., 2014; Sarstedt et al., 2018), further affirming the reliability of the constructs used in the study (i.e., customer experience, green innovation, and sustainable development).

In terms of the convergent validity, the average variance extracted (AVE) statistics obtained across the various constructs ranged from 0.507 to 0.576, confirming convergent validity – as the minimum cut-off suggested (Fornell & Larcker, 1981) and used in prior studies was 0.5 (Bossman & Agyei, 2022; Chua, 2023). For the discriminant validity, the Fornell-Larcker Criterion, and the Heterotrait-Monotrait (HTMT) ratio computed are presented in Tables 2 and 3, respectively. The Fornell-Larcker Criterion confirmed the discriminant validity as the square root of each construct's AVE exceeded its association with every other construct in the model (Fornell & Larcker, 1981). Finally, the HTMT statistics have also demonstrated discriminant validity, as none of the correlation statistics displayed in Table 3 exceeded the maximum cut-off of 0.9 suggested by Teo et al. (2008) or the 0.85 put forward by Kline (2011). Consequently, it could be said that, overall, construct discriminant validity was upheld in this study.

Table 2: Fornell-Larcker Criterion

Constructs	CE	GI	SD
CE	0.685	-	-
GI	0.510	0.712	-
SD	0.596	0.674	0.690

Note: statistics to be compared with the square root of AVE in Table 1; CE = customer experience, GI = green innovation, SD = sustainable development

Source: Field survey (2024)

Table 3: Heterotrait-Monotrait Ratio

Constructs	CGE	IAC	IAE
CGE	-	-	-
IAC	0.555	-	-
IAE	0.662	0.735	-

Note: CE = customer experience, GI = green innovation, SD = sustainable development

Source: Field survey (2024)

Structural model and hypotheses testing results

In the structural model, we tested the hypotheses formulated, and these are captured in Figure 2 and Table 4. The goodness-of-fit estimations for the model, where values for commonly used assessors of goodness of fit, such as Standardised Root Mean Square Residual (SRMR), Chi-square and Normed Fit Index (NFI) (Hair et al., 2010), are presented in Table 4. In terms of SRMR, the statistics suggested a good model fit (SRMR = 0.068) as values lower than or around 0.08 are considered indicative of good fit in SEM (Hair et al., 2019). Similarly, following Anwar and Shah (2020), the NFI statistic of 0.923 indicated a good model fit. Furthermore, considering the Chi-square statistics ($\chi^2 = 1782.064$, $p > 0.05$) in light of the SRMR and NFI statistics, a good model fit could be said to have been achieved (Hair et al., 2019; Hair et al., 2020).

Table 4: Structural Model Estimation

Hypothesised paths	β	t	Decision
CE->SD	0.308	5.190	Supported
CE->GI	0.636	7.481	
GI->SD	0.483	3.081	
CE->GI->SD	0.307		Supported

Note: Goodness-of-fit statistics for the structural model: SRMR = 0.068, NFI = 0.923, $\chi^2 = 1782.064$, $p > 0.05$

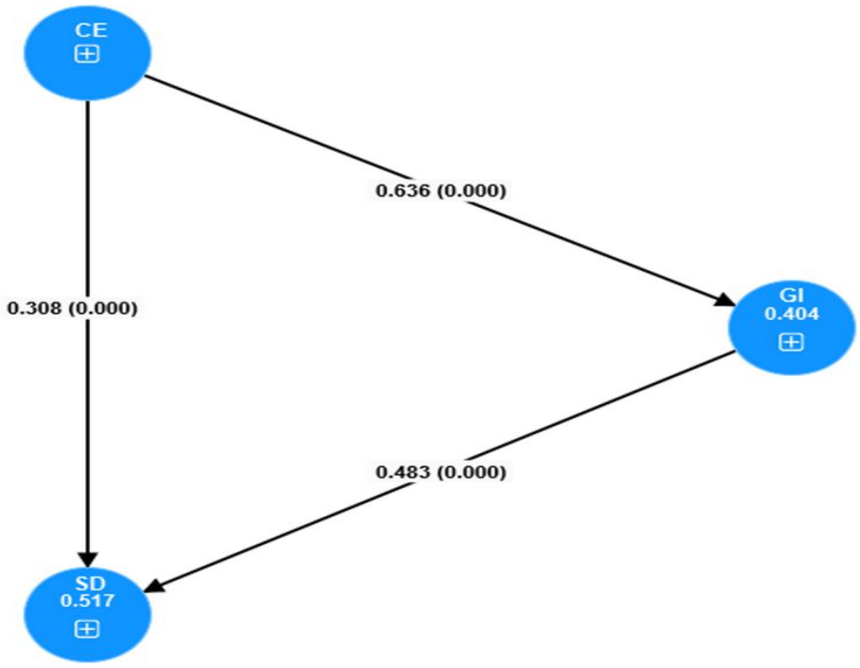
Note: CE (M = 3.75, SD = 1.03), GI (M = 3.58, SD = 0.64), SD = (M = 3.95, SD = 0.56); CE = customer experience, GI = green innovation, SD = sustainable development

Source: Field survey (2024)

The descriptive statistics, displayed under Table 4, have indicated that, averagely, customer experience about hotels in Ghana was encouraging (M = 3.75±1.03). Similarly, the results have demonstrated that majority of the hotels were practising green innovation in their activities and operations (M = 3.58±0.64). Also, it was revealed that the hotels' activities were friendly to sustainable development (M = 3.95±0.56). Regarding the structural model estimation,

the results indicated a significant positive effect of customer experience on sustainable development (β = .308, p < .001), suggesting that improved levels of customer experience would directly increase the sustainable development within hotels in Ghana. Statistically, a unit increase in customer experience would cause a 0.308 magnitude of increase in sustainable development. Similarly, a unit increase in customer experience would lead to 0.636 units increase in green innovation (β = .636, p < .001). The results have also shown that green innovation significantly and positively drive the sustainable development (β = .483, p < .001), suggesting that as green innovation improves within hotels, sustainable development is enhanced. Ultimately, as evident in Figure 2, customer experience also influences sustainable development through green innovation, indicating a partial mediation. These outcomes support the two hypothesised relationships.

In Figure 2, it could be realised that customer experience and green innovation, collectively, explained 51.7% of variation in sustainable development, suggesting that the remaining variance of 48.3% could be attributed to factors not considered in this study. Similarly, customer experience accounted for a total of 40.4% of variation in green innovation, indicating that the remaining 59.6% might be explained by factors exogenous to the model. The magnitude of these scores indicated the efficiency and robustness of the estimation model (Renaud & Victoria-Feser, 2010; Zhang, 2017).



Note: CE = customer experience, GI = green innovation, SD = sustainable development

Source: Based on PLS-SEM bootstrapping (2024)

Discussion

The results are both intriguing and pertinent, particularly in revealing that customer experience with hotels can significantly contribute to sustainable development. Even more surprising is the discovery that customer experience has the potential to drive green innovation within hotels, subsequently influencing sustainable development. These findings underscore the importance of hotels and emphasize the need for them to focus on enhancing customer experience. Specifically, the identified link between customer experience and sustainable development suggests that prioritising customer satisfaction can lead to more responsible business practices within hotels, promoting long-term environmental, social, and economic benefits.

It can be explained that hotels prioritising customer experience, through activities such as enhancing brand image and providing expected value and satisfaction, are more likely to adopt ethical and environmentally conscious practices (Eklöf et al., 2017). This, in turn, significantly contributes to sustainable development. The notion here is that satisfied customers are more inclined to support business organizations demonstrating social responsibility, thereby creating a demand for sustainable products and services. As hotels respond to this demand, they may integrate eco-friendly practices, ethical sourcing, and community engagement into their operations, further contributing to sustainable development. While previous studies have also indicated a positive correlation between customer experience and sustainability (Chen & Lin, 2015; Pei et al., 2020), this outcome substantiates the assertion of the transition theory that customer experience can play a role in enhancing sustainable development (Meleis et al., 2010). This implies that the transition theory could be subject to further testing in similar studies.

The finding that green innovation serves as a mediator in the relationship between customer experience and sustainable development presents an interesting insight. This implies that the impact of customer experience on sustainable development is not direct but is channelled through the avenue of green innovation within the context of hotels. At its core, this insight indicates that when customers have positive experiences with hotels, it stimulates a pathway leading to the emergence and implementation of environmentally conscious practices, i.e., green innovation. The positive encounters and satisfaction customers derive from their interactions with hotels seemingly promote an environment conducive to the adoption of sustainable and eco-friendly initiatives.

In other words, the study suggests that enhanced customer experiences in hotels may influence and inspire the development of innovative, environmentally friendly practices within the hotel industry. These green innovations, in turn, contribute significantly to the overarching goal of sustainable development, encompassing environmental, social, and economic dimensions. Therefore, the mediation role of green innovation in this relationship emphasises the transformative potential of positive customer experiences in encouraging sustainable practices within the hotel industry. This finding aligns with some prior related studies (Mihardjo &

Alamsjah, 2020; Wang et al., 2022), as well as the position of the institutional theory (Sahin & Mert, 2023). These findings, as stated earlier, have presented an intriguing insight into the potential interplays between customer experience, green innovation and sustainable development.

Conclusions and Recommendations

This study seeks to assess the relationship between customer experience and sustainable development, and how customer experience could influence sustainable development through green innovation. It was carried out through the lenses of the transitional and institutional theories. The study demonstrated the pivotal role of customer experience in shaping responsible business practices among hotels, directly and indirectly through green innovative initiatives, upholding the positions of the transition and institutional theories, and supporting the hypothesised relationships. It is now evident that as hotels prioritise meeting customer needs, the ripple effect may lead to a heightened awareness of social and environmental responsibility. The potential for positive change has also been highlighted, suggesting that hotels' efforts to satisfy customers' needs are not an end in themselves but a significant antecedent to improved sustainable development. Overall, for hotels to enhance sustainable development, there is the need to promote customer experience, as this could lead to both sustainable development and green innovation.

Hotels should therefore, consciously integrate sustainability into customer engagement, by actively communicating their sustainable practices to customers, ensuring transparency and trust. Eco-friendly initiatives and community engagement should be incorporated into marketing strategies, demonstrating commitment to both customer satisfaction and sustainable development. They should also invest in training programmes for employees to enhance their understanding of sustainable and green practices. Engaged and informed employees can better convey an organisation's commitment to sustainability, creating a positive customer experience which may in turn contribute to sustainable development.

Just as other empirical studies, this study is not without limitations. This study was cross-sectional, implying that it captured data at a specific point in time. Consequently, it provides a snapshot of the relationships between variables, but it does not offer insights into the dynamics or changes in these relationships over time. Longitudinal studies could be valuable in providing a more comprehensive understanding of the evolving connections among customer experience, green innovation, and sustainable development. Additionally, the reliance on a non-probabilistic sampling approach may introduce selection bias, limiting the generalisability of the findings. Future research could benefit from employing probabilistic sampling methods to enhance the study's external validity.

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