

Sustainable Customer Relationship Management in New York Hospitality Industry through Digitalization and Personalization

Dang Cao Ky Anh¹, Huynh Vuong Khang², Vo Minh Vinh³

¹Faculty of Business Management, University of Greenwich, London, UK ORCID: <https://orcid.org/0009-0004-4761-8198>

²Concord College, Acton Burnell Hall, Acton Burnell, Shrewsbury, Shropshire, England ORCID: <https://orcid.org/0009-0009-6818-1112>

³Faculty of Management and Economics, University of Tomas Bata, Zlin, Czech Republic ORCID: <https://orcid.org/0009-0007-4100-770X>

ABSTRACT: This study aims to explore how digitalization of customer engagement and service personalization & customization influence sustainable customer relationship management (SCRM) in New York's hospitality industry. It examines the moderating part of client trust and fidelity in enhancing service personalization and customization. Methodologically, we use a quantitative research approach and then collect primary data including hospitality professionals and hotel guests. The data analysis methods used include: descriptive analysis, Cronbach's alpha reliability test, exploratory factor analysis and moderator variable analysis with SPSS tool. The linear regression results show service personalization and customization has the strongest influence of 0.868 on the SCRM while 0.647 is for digitalization of customer engagement in New York' hospitality industry. Furthermore, customer trust & loyalty is the variable moderating the influence of the service personalization and customization on SCRM with measure of 0.48. The originality of this study presents a unique contribution by integrating digitalization, service personalization, and customer trust into a SCRM frame acclimatized to New York's hospitality industry. By bridging gaps, the study offers both theoretical advancements and gives practicable strategies for enhancing long-term customer engagement, strengthening brand fidelity, and fostering sustainable competitive advantages in the hospitality sector.

KEYWORDS: Sustainable customer relationship management; digitalization of customer engagement; service personalization & customization; customer trust & loyalty.

1. INTRODUCTION

In the hospitality industry, customer relationship management (CRM) plays a critical role in maintaining long-term customer engagement and business sustainability (Rahimi et al., 2017). As competition intensifies, hospitality businesses increasingly adopt digital tools and data-driven strategies to enhance customer experiences (Troisi et al., 2023). Moreover, sustainable customer relationship management (SCRM) goes beyond traditional customer service by integrating technology, personalization, and trust-building mechanisms to foster loyalty and long-term customer relationships. This study explores the role of customer experience enhancement in shaping the effectiveness of CRM strategies within the hospitality sector. Understanding these dynamics is crucial, as businesses must navigate the fine balance between technological efficiency and personalized customer engagement to sustain competitive advantages (Troisi et al., 2023).

Previous studies on CRM in the hospitality industry emphasize the importance of digitalization and personalized services in enhancing customer satisfaction and retention (Coelho & Henseler, 2012). However, many fail to consider the role of sustainability, especially in New York's hospitality sector, where eco-conscious practices are becoming increasingly relevant. Additionally, while trust and loyalty are crucial for long-term customer relationships, their impact on the effectiveness of personalized services remains underexplored (Fakhimi et al., 2023). This study aims to bridge these gaps by examining how sustainability can be integrated into CRM and assessing the moderating role of customer trust in shaping service personalization outcomes.

Sustainable Customer Relationship Management in New York Hospitality Industry through Digitalization and Personalization

This article aims to bridge existing research gaps by addressing two primary research questions. The primary objective is to address the research questions:

1. How does the digitalization of customer engagement impact sustainable customer relationship management in the hospitality industry?
2. What impact does service personalization and customization have on sustainable customer relationship management in the hospitality industry?
3. To what extent do customer trust and loyalty moderate the relationship between personalization & service customization and sustainable customer relationship management in the hospitality industry?

Based on the research questions, this study suggests three research objectives with the first to investigating how digitalizing customer engagement enhances SCRM, the study directly addresses the current shift toward digital transformation and service personalization & customization together with their potential in fostering enduring customer relationships and operational efficiency. Secondly, the study seeks to discover the moderating role of customer trust & loyalty on SCRM, enabling insights into how relationship dynamics influence the effectiveness of personalization strategies. In light of this, the last objective of this paper is to make dramatic theoretical contributions and propose strategic recommendations for improving long-term customer relationships in the hospitality industry. The authors use a quantitative research approach and then develop an online survey using Google forms and a 5-level Likert scale to collect primary data from 385 respondents, divided into two key groups: hospitality professionals (40%) and hotel guests (60%). The first group included customer service staff, hotel managers, CRM and marketing specialists, and IT personnel involved in digital engagement. The second group comprised both domestic and international travelers, including frequent business travelers and loyalty program members who regularly engage with personalized services. The data analysis methods used in this study include: descriptive analysis, Cronbach's alpha test, exploratory factor analysis (EFA) and moderator variable analysis with SPSS tools. The rest of the paper is structured into five sections: Section 2 presents the conceptual framework, explaining the factors influencing SCRM in the hospitality industry. Sections 3 and 4 focus on the research methodology and the study's findings, respectively. Section 5 delivers a critical discussion, while the final section proposes practical solutions, outlines future research directions, and concludes with a summary of the key findings.

2. LITERATURE REVIEW

2.1. Sustainable customer relationship management

Customer relationship management (CRM) is a strategic approach that integrates company strategy, business processes acquainted towards guests, and information technology to make and maintain long- term, sustainable connections with guests (Baksi & Parida, 2013). It focuses not only on attracting new guests but also on enhancing satisfaction and fidelity among bones by delivering superior value and substantiated guests. In recent times, the conception of sustainable customer relationship management (SCRM) has surfaced, expanding the traditional CRM frame by incorporating sustainability rudiments into business strategies and operations (Li et al., 2023). Moreover, Li et al. (2023) also asserts sustainable customer relationship operation considers not only profitable factors but environmental and social impacts in managing client connections. This involves espousing eco-friendly business practices, demonstrating social responsibility, and creating long- term value for both the company and community (Khalufi et al., 2025).

Within hospitality assistance, enforcing sustainable customer relationship operation is pivotal for enhancing client guests and fostering fidelity (Rahimi et al., 2017). By integrating sustainability principles into services and processes, hospices can meet the growing demand from guests for socially responsible and environmentally friendly practices. For example, exercising eco-friendly products, minimizing waste, and conserving energy not only contribute to environmental preservation but leave a positive print on guests, thereby strengthening connections and adding fidelity (Godefroit- Winkel et al., 2021). In the broader social environment, Ferrer- Estévez and Chalmeta (2022) state SCRM promotes sustainable development by encouraging businesses to uphold social responsibility and environmental stewardship. When companies employ SCRM, they prioritize not only gains but the impact of their operations on society and the terrain.

2.2. Anchoring the theoretical framework

Customer experience enhancement (CEE) refers to the deliberate sweats made by businesses to ameliorate relations, satisfaction, and engagement throughout the customer trip. Digital metamorphosis, service personalization, and trust-based enterprise are central to this process, enabling enterprises to foster long-term client relationships. At the core of CEE is the integration of digital tools similar to artificial intelligence (AI), data analytics, and automated client service platforms, which optimize engagement and streamline relations. To dissect CEE's impact on sustainable CRM, this study draws on the Technology-

Sustainable Customer Relationship Management in New York Hospitality Industry through Digitalization and Personalization

Organization-Environment (TOE) Framework and the Commitment- Trust proposition. These fabrics give a comprehensive foundation for understanding how digital metamorphosis and trust-structure strategies impact long-term client connections.

2.2.1 Technology-Organization-Environment (TOE) framework

The Technology-Organization-Environment (TOE) frame provides a structured way to understand how businesses borrow and integrate new technologies by considering three critical factors: technology, association, and terrain (Tornatzky & Fleischer, 1990). In the hospitality industry, digital metamorphosis is a crucial motorist of SCRM, making the TOE frame a precious perspective for analysis. From a technological viewpoint, inventions similar to AI, data analytics, and digital client commerce platforms have revolutionized CRM strategies. These advancements not only ameliorate functional effectiveness but enhance client personalization and long- term sustainability enterprise (Ledro et al., 2022). Technological capabilities alone are not enough. The success of digital CRM also depends on organizational factors, including leadership support, hand digital knowledge, and the structural capability of enterprises to integrate new technologies effectively. Hospitality businesses must align their internal coffers with digital inventions to maintain a competitive edge and ameliorate client satisfaction (Leso et al., 2022). The environmental aspect of the TOE frame considers external forces that impact digital relinquishment, similar as nonsupervisory conditions, competitive request pressures, and evolving consumer prospects. In a megacity like New York, where sustainability enterprises are decreasingly shaping customer preferences, hospitality businesses must misbehave with environmental programs while using digital strategies to meet these shifting demands (Jones et al., 2016).

From a theoretical perspective, digital customer engagement initiatives have demonstrated significant potential in strengthening long-term relationships by facilitating meaningful interactions between customers and hospitality firms. Studies have shown firms that leverage digital engagement tools are effective in cultivating deeper, more sustainable relationships with customers due to increased satisfaction and loyalty derived from continuous personalized interactions (Touni et al., 2022). However, simply adopting such technologies is not enough; strategically aligning digital engagement initiatives with organizational capabilities, such as leadership support and skilled personnel, is paramount to realizing SCRM. To strengthen the conceptual framework of this paper, we explicitly integrate the TOE framework to substantiate our concept that digitalization enhances CRM sustainability by effectively leveraging technological innovations, optimizing organizational resources, and responding to environmental pressures.

As for personalization and customization of services, they are increasingly recognized as important CRM strategies in the hospitality industry. According to recent research, personalized services significantly increase customer satisfaction and perceived service quality, ultimately driving customer loyalty and retention (Rather, 2020). However, while personalized services enhance customers, there is a critical need for organizations to build a comprehensive technology infrastructure supported by employee training and adaptive service delivery mechanisms to effectively manage customer expectations. Without such organizational and technological integration, personalization strategies risk becoming inconsistent or incomplete, potentially damaging customer relationships rather than strengthening them. Anchoring TOE framework, this paper aims to support my proposed hypothesis that service personalization and customization positively impact sustainable CRM by exploiting technological innovations, enhancing organizational capabilities, and strategically responding to customer-centric environmental pressures.

Customer trust and loyalty significantly foster the effectiveness of service personalization strategies, shaping SCRM outcomes. Trust serves as a foundational element that enables successful data personalization because customers who trust companies are more likely to actively engage in customized services, reducing the perceived risk associated with data use (Maghembe & Magasi, 2024). In light of this, this paper further refines the TOE framework to validate that customer trust and loyalty positively moderate the impact of service personalization on sustainable CRM. We would argue that customer trust and loyalty act as important environmental moderators that enhance or inhibit the effectiveness of technological innovations and organizational strategies, ultimately affecting the long-term sustainability of CRM in the industry.

Although TOE framework argues that technological innovations such as AI and data analytics are fundamental to enhancing SCRM in the hospitality industry, this theory assumes that hospitality businesses have the organizational readiness, including supportive leadership and digitally skilled employees, to effectively integrate these technologies into their daily operations (Hradecky et al., 2022). Furthermore, the framework assumes that external environmental conditions, such as regulatory frameworks and changing consumer preferences, significantly influence organizations' decisions to adopt digital, especially in markets that emphasize sustainability, such as the New York City hospitality industry (Jones et al., 2016).

2.2.2. Commitment-Trust theory

Morgan & Hunt's Commitment-Trust theory (1994) plays a pivotal part in explaining how customer trust and fidelity moderate the effectiveness of sustainable CRM in the hospitality sector. The proposition suggests that trust and commitment form the foundation of strong business connections especially in service- acquainted diligence where long-term customer retention is

Sustainable Customer Relationship Management in New York Hospitality Industry through Digitalization and Personalization

crucial. Personalization and customization are central to ultramodern CRM strategies, aiming to produce acclimatized guests that enhance customer satisfaction and brand attachment. The impact of these personalization efforts heavily depends on the position of trust guests placed in the service provider (Gefen et al., 2003). A brand perceived as secure is more likely to foster long-term customer connections, advanced fidelity, and sustainable business growth (Lacey et al., 2015; Turnšek et al., 2020).

Trust plays a particularly critical part in digital CRM, where enterprises about data sequestration and service authenticity can impact customer comprehensions. When businesses use personalization effectively, it can strengthen emotional connections and encourage reprise engagement. If guests feel their particular data is being misused or that digital relations warrant translucency, trust can snappily erode (Doney & Cannon, 1997). In largely digitalized surroundings like New York's hospitality industry, maintaining this balance is grueling. Companies must ensure that their use of customer data aligns with ethical norms and sequestration prospects to avoid comprehensions of surveillance or intrusion (McKnight et al., 2002). Commitment, on the other hand, is erected through harmonious and positive relations. Businesses that invest in quality service, nippy problem resolution, and meaningful engagement can foster stronger customer connections. While digitalization enhances effectiveness, an over-reliance on robotization can dwindle the particular touch that's vital in hospitality services. This highlights a crucial challenge blending technological effectiveness with mortal connection to sustain CRM success (Wu & Huo, 2023).

As stated by Bilgihan et al. (2016), trust acts as a key mediator in digital hospitality, significantly influencing customer satisfaction and subsequent loyalty behavior. Plus, we favorably support their findings, confirming that consumer perceptions of data privacy directly impact trust and desire to engage in digitally personalized experiences. This reinforces the importance of linking digital CRM activities with ethical data management to optimize customer trust. For this reason, to reinforce the conceptual structure of this study, we explicitly integrate the Trust-Commitment Theory by demonstrating that trust and commitment are essential moderating mechanisms through which personalization and service customization enhance SCRM outcomes. This theoretical adaptation strengthens the concepts, highlighting that customer trust and loyalty significantly moderate the effectiveness of personalized CRM strategies. Accordingly, the paper aligns the Trust-Commitment framework to substantiate the critical need for hospitality firms to manage digitalization and personalization in ways that foster trust, maintain transparency, and strengthen customer commitment.

Although the Commitment-Trust theory provides a strong foundation for understanding client fidelity, it assumes that trust and commitment develop in a direct fashion. In reality, external dislocations similar to negative service guests or aggressive request competition, can fleetly weaken customer trust. To address this, hospitality enterprises should integrate commitment-trust principles with adaptive CRM technologies that respond stoutly to client enterprises. Given New York's different clientele and high service prospects, businesses must strategically use digital tools to support trust while maintaining a substantiated, customer-centric approach. Therefore, while Commitment-Trust theory effectively explains the moderating part of customer fidelity, combining it with digital metamorphosis models can offer a further holistic perspective on sustainable CRM in the hospitality industry.

2.3. The impact of customer experience enhancement

2.3.1 Digitalization of customer engagement

Digitalization refers to the integration of digital technologies into various aspects of business and society, fundamentally transforming operations and value delivery (Pham, 2024). Businesses utilize digital technologies to streamline internal operations, foster innovation, and improve customer engagement, creating a smooth and efficient service experience (Bouncken et al., 2021). Digitalization of customer engagement (DCE) involves leveraging digital technologies to interact with customers more effectively and personally (Srivastava et al., 2023). This includes utilizing digital channels such as social media, mobile applications, and online platforms to create seamless and responsive customer experiences. The role and importance of digitalizing customer engagement significantly impact sustainable customer relationship management (CRM) (Ferrer-Estévez & Chalmeta, 2022). By embracing digital tools, companies can collect and analyze customer data more comprehensively, leading to deeper insights into customer needs and behaviors (Allan, 2021).

The DCE is reshaping how businesses build and sustain long-term customer relationships, a transformation that can be analyzed through three philosophical perspectives: First, pragmatism emphasizes that the value of technology is determined by its practical effectiveness (Visser, 2017). In this context, digital tools enable businesses to gain deeper insights into customer needs, allowing for personalized services that enhance satisfaction and contribute to sustainable customer relationships. Second, from an existentialist standpoint, digitalized customer interactions raise questions about authenticity in business-customer relationships. The use of technology must ensure that engagement remains genuine and human-centered, avoiding the risk of customers feeling manipulated by automated systems (Ferrer-Estévez & Chalmeta, 2022). Lastly, Kantian ethics asserts that all business practices

Sustainable Customer Relationship Management in New York Hospitality Industry through Digitalization and Personalization

should be based on principles of respect and transparency (Quach et al., 2022). In digitalized engagement, companies must protect customer privacy and data, ensuring that interactions are based on consent and mutual trust to foster long-term relationships. Obviously, when implemented ethically and with a human-centered approach, the DCE plays a crucial role in promoting sustainable customer relationship management.

The impact of DCE on SCRM in the hospitality industry is widely debated, with differing perspectives on its effectiveness. Empirical studies indicate that digitalization has a strong positive effect on SCRM by significantly improving efficiency, enabling data-driven decision-making, and fostering long-term customer loyalty (Hat et al., 2024). Additionally, digital engagement contributes to sustainability by reducing operational waste-such as using e-receipts instead of paper invoices and optimizing resource usage through AI-driven energy management systems (Zhang et al., 2024). However, others believe that digitalization has a weaker impact on SCRM, arguing that while technology improves efficiency, it cannot fully replace personal interactions, which are crucial for long-term customer trust. Faithfull (2023) highlights that over-reliance on automated services, such as AI chatbots and self-service kiosks, may reduce the human connection that fosters strong relationships. Additionally, concerns over data privacy and ethical AI usage raise questions about whether digitalized engagement truly supports sustainable relationship-building or merely creates transactional interactions that lack emotional depth (Quach et al., 2022). A more balanced perspective suggests that digitalization has a moderate impact on SCRM, emphasizing the need for a hybrid approach that integrates both technology and human interaction. While digitalization enhances efficiency, its moderate impact on SCRM is contingent on how well businesses integrate technology with human-centered interactions (Hussain et al., 2024). The most sustainable approach, therefore, is one that leverages technology to enhance efficiency while maintaining meaningful, personal interactions that reinforce customer loyalty (Chatterjee & Chaudhuri, 2022). By combining digital efficiency with human-centric service, hotels can ensure that customer relationships remain both resilient and sustainable.

DCE has played a significant role in shaping SCRM within New York's hospitality industry, such as InterContinental New York Times Square, Hyatt Grand Central New York, particularly as businesses in this global tourism hub seek to enhance efficiency and long-term customer loyalty. One example is the integration of digital platforms in hospitality businesses, where hotels and restaurants in New York increasingly leverage digital transformation to optimize internal processes and enhance data-driven decision-making (Sheresheva et al., 2020). Research highlights that the adoption of smart digital platforms has improved customer engagement by enabling seamless online reservations, automated service responses, and AI-powered recommendations tailored to guest preferences.

By anchoring the theoretical framework, we synthesize the main perspectives to put forward the first hypothesis as follows:

H1: Digitalization of customer engagement positively impacts sustainable customer relationship management in the hospitality

2.3.2 Service personalization and customization

In moment's hospitality industry, service personalization and customization are crucial drivers of SCRM, especially as guest prospects continue to rise. Personalization focuses on acclimatizing products or services grounded on individual customer data, creating experiences that feel uniquely curated (Tiihonen & Felfernig, 2017). On the other hand, customization gives customers the capability to modify services to more fit their specific requirements, allowing for a further hands-on approach to their experience (Sharma & Bhat, 2022; and Bleier et al., 2018). These strategies not only enhance customer satisfaction and fidelity, making guests feel valued and encouraging reprise business (Coelho & Henseler, 2012), but also contribute to sustainability. By feeding directly to customer preferences, businesses can reduce redundant product, minimize waste, and optimize coffers, aligning with sustainable hospitality practices (Jain et al., 2018).

The impact of service personalization and customization on SCRM can be analyzed through sociological and philosophical perspectives. From a sociological viewpoint, Social Capital Theory suggests that businesses foster long-term client connections by strengthening social bonds and trust through personalized services (Müller, 2014). When companies conform to client preferences, they not only produce profitable value but also enhance emotional fidelity, leading to sustainable engagement. Philosophically, Individualism Theory emphasizes particular autonomy and the right to choose. By allowing guests to customize their guests, businesses empower them, adding satisfaction and buttressing long-term fidelity (Pallant et al., 2020). Furthermore, from an ethical and commercial social responsibility perspective, companies that integrate personalization with sustainable practices similar to on-demand products to reduce waste align their business pretensions with societal well-being (Ashqar et al., 2023). This approach not only drives profitability but also reinforces customer trust and long-term relationship sustainability.

The influence of service personalization and customization on SCRM in the hospitality industry remains a subject of debate, with varying perspectives on its impact. Some scholars argue that these strategies have a strong positive effect, significantly boosting client satisfaction and loyalty. Luu (2017) emphasizes that commercial social responsibility enterprise, frequently tied to

Sustainable Customer Relationship Management in New York Hospitality Industry through Digitalization and Personalization

individualized service guests, can encourage environmentally responsible behavior and contribute to further sustainable client connections. However, some experimenters believe the impact of personalization and customization is weaker than generally assumed. While these strategies can enhance the client experience, they come with challenges similar as high perpetration costs, scalability issues, and inconsistencies across a large client base (Kannan & Healey, 2011). There's also the threat of over-personalization, where inordinate data shadowing can make guests uncomfortable, eventually dwindling engagement rather than fostering it (Sultan & Yin Wong, 2012). Additionally, a more moderate view suggests that the effectiveness of personalization and customization depends on how they're executed. When precisely integrated, combining digital tools with mortal commerce and icing translucency in data use, these approaches can make client trust and encourage long-term engagement (Bleier et al., 2018).

With growing competition in the hospitality industry and adding guest prospects, hospices are constantly seeking new ways to enhance client engagement and foster long-term connections. In response, hospitality in New York, similar to The Peninsula New York, Kimpton Ink48 Hotel, and other major civic requests are turning to digital technology to produce more individualized guest experiences (Nagy, 2024). Customer relationship management (CRM) systems have become a pivotal tool, enabling businesses to collect data from colorful sources similar to online reservations, social media relations, and guest reviews (Zhang et al., 2024). By assaying this information, hospices can more understand client preferences and offer acclimatized services or elevations, eventually boosting guest satisfaction and fidelity.

To build a solid foundation for the theoretical framework, we synthesize various perspectives to lay the foundation for the second hypothesis as follows:

H2: Service personalization and customization positively impacts sustainable customer relationship management in the hospitality

2.3.3 Customer trust and loyalty

Customer trust is the confidence customers place in a company's reliability, integrity, and ability to deliver on its promises (Martínez, 2015). It is built over time through consistent positive experiences, transparent communication, and a company's commitment to ethical business practices. Closely related to this is customer loyalty, which refers to a customer's long-term commitment to a brand, reflected in repeat purchases and a preference for that company over its competitors (Issock et al., 2020). The significance of customer trust and loyalty cannot be overstated, as they play a critical role in business sustainability and long-term success. When customers trust a brand, they are more willing to share their preferences and build lasting relationships, allowing businesses to personalize services in a way that enhances satisfaction while reinforcing loyalty by making customers feel valued and understood (Bhat et al., 2024).

The effectiveness of service personalization and customization in achieving SCRM is significantly influenced by customer trust and loyalty, as highlighted by several sociological and philosophical perspectives. Social Capital Theory emphasizes that networks rich in trust and reciprocity facilitate cooperation and resource exchange (McElroy et al., 2006). Hospitality that builds strong in the context of sustainable CRM, trust-based relationships with customers encourage deeper engagement with personalized services, thereby enhancing the sustainability of these relationships. Similarly, the Expectation-Confirmation Theory posits that customer satisfaction, and thus loyalty, arises when services meet or exceed expectations (Lin et al., 2009). When personalized services align with or surpass what customers anticipate, trust is reinforced, leading to sustained loyalty and more robust customer relationships. Understanding these two factors, service expectations and perceived performance, is essential, as they directly influence service confirmation and satisfaction. Additionally, Attachment theory suggests that emotional bonds between customers and brands foster trust and loyalty. Thanks to customer trust and loyalty, the impact of service personalization is moderated, making customers more receptive to customized offerings, thereby contributing to the sustainability of customer relationships (Fearon & Roisman, 2017).

In the hospitality industry, there's ongoing debate about how much customer trust and loyalty shape the relationship between service personalization, customization, and SCRM. Research on the topic has produced mixed results. Some studies suggest that trust and loyalty play a crucial role in amplifying the benefits of personalized services. For instance, Bock et al. (2016) highlight that customer trust and loyalty greatly enhance the influence of service personalization and customization on SCRM by deepening customer commitment and satisfaction, ultimately fostering long-term engagement. However, not all scholars agree on the strength of this effect. In certain situations, customer trust and loyalty have little impact on moderating the relationship between service personalization and customization and SCRM, especially when customers value convenience more than brand loyalty (Majaliwa & Magasi, 2024). Trust and loyalty serve as poor moderators, as customers are more transactional in their decision-making. Meanwhile, a more nuanced perspective argues that the influence of trust and loyalty depends on the situation. Agha Kasiri & Mansori (2016) stated that trust and loyalty play a moderate role, enhancing the effectiveness of personalization but not acting as absolute determinants. While customer trust and loyalty enhance the effect of service personalization and customization on SCRM, its influence is contingent on external factors such as competition and economic conditions.

Sustainable Customer Relationship Management in New York Hospitality Industry through Digitalization and Personalization

In New York City's hospitality scene, customer trust and loyalty play a crucial role in shaping service personalization and customization, ultimately fostering long-term relationships with guests. The Ritz-Carlton's personalized approach exemplifies how service customization strengthens customer loyalty, which in turn reinforces the sustainability of CRM practices by ensuring repeat business and brand advocacy. This meticulous approach not only enhances guest satisfaction but also builds strong loyalty, encouraging repeat stays and long-term engagement. While there may not be an abundance of academic studies specifically analyzing The Ritz-Carlton New York, its service model aligns closely with well-established relationship marketing principles, reinforcing the idea that trust and personalization are key drivers of customer loyalty.

Based on the theoretical framework, we integrate relevant perspectives to build the third hypothesis as follows:

H3: Customer trust and loyalty positively moderate the influence of service personalization and customization on sustainable customer relationship management in the hospitality industry

2.3.4. Conceptual framework

The conceptual framework of this paper integrates an advanced form of the Technology-Organization-Environment and Commitment-Trust Theory, providing a strategic perspective through which firms use these technologies to drive sustainable growth. By explicitly linking the hypotheses to these theoretical foundations, this study strengthens its potential to make a meaningful contribution to the academic framework.

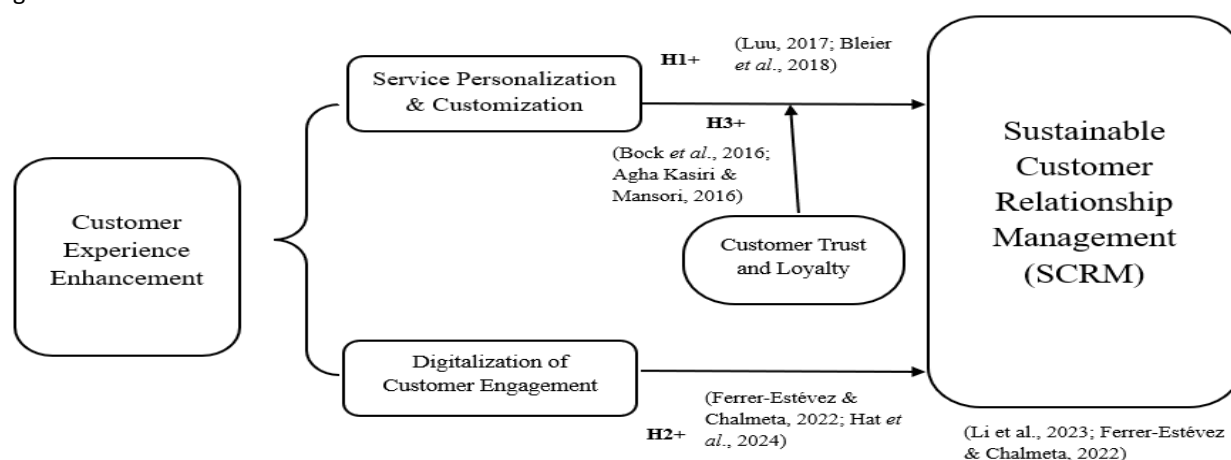


Figure 1. The paper's conceptual framework

Source: (The authors, 2025)

3. METHODOLOGY

3.1. Research approach and strategy

Both quantitative and qualitative research methods are widely used in the social sciences. For this study, we chose a quantitative research approach because it allows for the collection and analysis of numerical data to investigate and confirm patterns (Creswell & Creswell, 2018). This method relies on statistical techniques to objectively assess data and generate measurable conclusions (Babbie, 2010). By taking this approach, we aimed to answer our research questions effectively and uncover relationships between key variables. Additionally, the study followed a deductive methodology, which aligns with the quantitative approach by enabling us to test hypotheses, make predictions, and draw conclusions based on statistical evidence.

3.2. Participants

To ensure accuracy and representativeness in the findings, this study employed a probability sampling approach (Bryman, 2012). Data was collected through a survey method, utilizing a 5-point Likert scale, where participants rated their agreement from 1 ("totally disagree") to 5 ("totally agree") (Brown, 2011). To reach a well-rounded sample, surveys were distributed online via hospitality industry networks, professional forums, and digital platforms frequented by hotel employees, managers, and guests in New York. Specifically, the survey was disseminated through professional LinkedIn groups such as Hospitality Professionals and Hotel Management Network, as well as forums like Hotel Synergies and events hosted by the NYU Tisch Center of Hospitality. For guest participants, the survey was shared via post-stay emails and feedback platforms like TrustYou and GuestRevu, targeting both domestic and international travelers. This study employed a stratified purposive sampling strategy integrated with a multi-stage cluster design. Stratification was based on distinct respondent characteristics relevant to the research objectives, including role in the hotel value chain, level of engagement with digital CRM tools, and hotel type (e.g., luxury, boutique, economy). Sampling units were grouped by borough in New York City (e.g., Manhattan, Brooklyn), and within each cluster, purposive sampling was conducted

Sustainable Customer Relationship Management in New York Hospitality Industry through Digitalization and Personalization

on two primary groups with the final sample size of 385 respondents: hospitality professionals (40%) and hotel guests (60%). The first group included customer service staff, hotel managers, CRM and marketing specialists, and IT personnel involved in digital engagement. The second group comprised both domestic and international travelers, including frequent business travelers and loyalty program members who regularly engage with personalized services. This approach enhances depth and diversity of data, providing a balanced representation of both industry professionals and hotel guests, offering valuable insights into the role of digital engagement and service personalization in shaping SCRM within New York's hospitality sector.

4. RESULTS

4.1. Cronbach's Alpha reliability analysis

From Table 1, all dependent variables showed adjusted item-total correlation coefficients no less than 0.3. The overall Cronbach's alpha was calculated to be 0.733, which not only exceeds the commonly accepted threshold of 0.6 but also exceeds the alpha values that would arise if any individual items were omitted. In addition, for each dependent variable, the Cronbach's alpha values, after removing individual items, remained above their respective adjusted item totals. Therefore, no items were removed. Similar results were found for Cronbach's alpha estimates for the other variables.

4.2. Exploratory Factor Analysis (EFA)

Based on Table 2, the rotated component matrix grouped the eight dependent variables into two separate factors corresponding to the independent variables, with no dependent variables being eliminated in the process. Each dependent variable showed a factor loading greater than 0.5. A comparative analysis was also conducted for the dependent and moderator variables.

4.3. Multiple linear regression model

Table 3 shows that the significance value (Sig.) obtained from the t-test for both variables, is 0.000, well below the threshold of $\alpha = 0.05$. This confirms that the independent variables, digitalization of customer engagement (DCE) and service personalization & customization (SPC), significantly impact the dependent variable, sustainable customer relationship management (SCRM) in the hospitality industry. Therefore, both hypotheses are accepted.

4.4. Moderator analysis

The p-value, in Table 4, for the interaction term (Int_1) is 0.000, which is much lower than the significance level of 0.05, indicating that there is a significant interaction between SPC and CTL in predicting SCRM. The coefficient of 0.48 for Int_1 indicates that increased levels of customer trust and loyalty will strengthen the positive impact of service personalization and customization on sustainable customer relationship management. Therefore, hypothesis H3 is supported.

5. DISCUSSION

5.1. Summary Results

The linear regression results show that the service personalization & customization has the strongest influence (0.868) on the sustainable customer relationship management, and digitalization of customer engagement has a significant impact (0.647) sustainable customer relationship management in hospitality industry. Furthermore, customer trust & loyalty is the variable moderating the influence of the service personalization and customization impact on sustainable customer relationship management with measure of 0.48. For this result, all of three research questions have been affirmatively addressed.

5.2. Theoretical implication

The findings of this study explosively affirm the perspective of Hat et al. (2024), who argue that digitalization significantly enhances sustainable customer relationship management by perfecting effectiveness and fostering long-term client fidelity. The substantial impact of digitalized client engagement (0.647) on SCRM aligns with exploration emphasizing the part of digital tools in optimizing resource operation and minimizing functional waste (Zhang et al., 2024). However, this study only concurs with Faithfull (2023), who contends that digitalization weakens SCRM by reducing mortal commerce, which is essential for trust-structure. While inordinate reliance on robotization can erode emotional connections, the findings suggest that digitalization still plays a pivotal part when strategically integrated with substantiated engagement. In discrepancy, the results challenge Quach et al. (2022), who emphasize ethical enterprises and question whether digitalization fosters sustainable connections. Rather, the study highlights that digitalized engagement, when balanced with mortal-centric relations, remains a robust motorist of SCRM. Therefore, this exploration reinforces a moderate station, championing a mongrel approach where digital effectiveness complements, rather than replaces, individualized service. Importantly, because this study draws on empirical data collected from

Sustainable Customer Relationship Management in New York Hospitality Industry through Digitalization and Personalization

hotel staff, managers, and guests in New York City, the findings provide a contextual understanding of how digitalization and service personalization work in a diverse and highly competitive urban hospitality environment. New York's unique customer expectations and demands for fast service further underscore the importance of CRM strategies that combine economic efficiency with personalized human interactions.

The study's findings explosively align with scholars who assert that service personalization and customization significantly enhance sustainable customer relationship management (SCRM) by fostering client engagement and fidelity (Luu, 2017; Bleier et al., 2018). The regression results, demonstrating a strong influence (0.868), support the view that acclimatized experiences contribute to long-term connections and sustainability (Coelho & Henseler, 2012). This corroborates Social Capital Theory, emphasizing that strengthened trust through substantiated services enhances emotional fidelity (Müller, 2014). However, while some scholars argue that over-personalization pitfalls discomfort and advancement (Sultan & Yin Wong, 2012), the findings suggest that customer trust and loyalty, as a moderating variable (0.48), alleviate these pitfalls, indicating that trust-driven personalization strengthens, rather than weakens, SCRM. Nonetheless, the study does not completely support perspectives pressing the scalability and cost challenges of personalization (Kannan & Healey, 2011), as the digitalization of client engagement (0.647) appears to grease flawless customization. Thus, the results endorse for a balanced integration of technology and mortal commerce to optimize sustainable hospitality CRM. As this study is based on surveys conducted with hotel employees, managers, and guests in New York City, the findings are highly contextual. New York's dynamic and high-expectation environment amplifies the importance of personalization strategies that are both technologically enabled and human-centered. The theoretical contributions of this study, therefore, provide insights into how SCRM practices are operationalized in multicultural, urban hospitality ecosystems.

The findings explosively support the assertion that customer trust and loyalty appreciatively moderate the impact of service personalization and customization on sustainable CRM, but the magnitude of this effect (0.48) raises critical debates. Scholars similar to Bock et al. (2016) advocate that trust and loyalty significantly enhance service personalization's impact on CRM by buttressing client commitment. This study concurs with this perspective but only to a partial extent, as the statistical substantiation suggests that while trust and fidelity contribute, their moderating effect is not as strong as traditionally argued. On the negative, Majaliwa and Magasi (2024) challenge the centrality of trust, contending that in largely transactional requests, guests prioritize convenience over fidelity. This study does not completely align with this view but acknowledges its applicability, particularly in surrounds where digitalized hospitality services minimize particular relations. Agha Kasiri & Mansori (2016) offer a further nuanced station, suggesting that trust and fidelity have a moderate influence, contingent on external factors. The findings align most nearly with this interpretation, indicating that while trust and fidelity enhance personalization, their impact is environment-dependent rather than widely strong. The moderate moderating effect of trust and loyalty (0.48) reflects the unique dynamics of the New York hospitality industry, where customers are exposed to a saturated service environment and may prioritize speed, convenience, or digital integration over traditional concepts of brand loyalty. In such a context, emotional attachment and trust must be actively cultivated through high-quality, culturally sensitive, and technologically enhanced personalization strategies. This reinforces the argument that in New York's fast-paced and digitally advanced hospitality sector, the impact of customer trust and loyalty on CRM outcomes is highly context-dependent. Hotel chains operating in this environment must recognize that building trust requires not only excellent service but also data transparency, ethical personalization practices, and emotionally intelligent interactions with employees. The theoretical implication, therefore, is that the moderating role of trust and loyalty must be interpreted flexibly, especially in urban hospitality markets where transactional relationships often prevail unless consciously transformed through meaningful engagement strategies.

5.3. Practical Implications

The exploration findings indicate that DCE significantly impacts SCRM with an effect size of 0.647. This underscores the significance of integrating digital technologies, similar as AI, chatbots, and data analytics, into CRM strategies in the hospitality industry (Ferrer- Estévez & Chalmeta, 2022). However, businesses must balance digital effectiveness with mortal commerce to maintain customer engagement and avoid a purely transactional relationship (Hat et al., 2024). In New York, where customers expect speed, personalization, and seamless technology integration, digital tools should be deployed not only to automate but also to enhance human-centric service. Local hotel chains should consider adopting AI-powered customer profiles, multilingual chatbots, and integrated response systems tailored to New York's multicultural and fast-paced clientele. Meanwhile, service personalization and customization parade the strongest influence on SCRM, with an effect size of 0.868. This suggests that offering substantiated services, similar to customized recommendations and dynamic pricing, enhances customer satisfaction and loyalty (Coelho & Henseler, 2012). Companies must ensure ethical data operation to sustain client trust and nonsupervisory compliance (Quach et al., 2022). For New York hotel chains, this finding calls for advanced customer personalization platforms that can adapt

Sustainable Customer Relationship Management in New York Hospitality Industry through Digitalization and Personalization

to highly segmented preferences, such as dietary needs, room settings, and real-time service adjustments. By combining localized data and cultural nuances, New York hospitality businesses can turn customer interactions into deeply personalized experiences while remaining compliant with state-specific privacy and data protection regulations.

Specially, customer trust and loyalty moderate the relationship between service personalization and SCRM, with an effect size of 0.48, pressing the need to make trust through transparent communication, harmonious service quality, and secure data operation (Bock et al., 2016). Enforcing fidelity programs and effectively managing guest feedback can further support long-term engagement (Agha Kasiri & Mansori, 2016). In the crowded New York metropolitan market, where brand switching is common and competition is fierce, building trust and loyalty is critical. Hotel chains should focus on loyalty programs that offer exclusive, high-value experiences, such as curated city tours, priority room reservations, or access to local cultural events. Additionally, being responsive to guest feedback and communicating clearly about the use of data will build guest trust and encourage repeat visits.

5.4. Limitations

This study has several limitations. First, the exploration is geographically limited to New York's hospitality industry, which may circumscribe the generalizability of findings to other regions. Second, while the study employs a quantitative approach, a mixed-styles design incorporating qualitative perceptivity could give a further comprehensive understanding of client comprehension. Third, the reliance on tone-reported check data may introduce response bias, as actors might overdo or understate their guests. Incipently, the moderating part of client trust and fidelity is told by external factors similar as competition and profitable conditions, which were not explicitly examined in this exploration.

5.5. Direction for future research

Future exploration can expand on this study by addressing several crucial areas. First, experimenters should explore the connection of sustainable customer relationship management (SCRM) in different geographic surrounds beyond New York to assess cross-cultural variations. Second, a mixed-styles approach incorporating qualitative perceptivity, similar as in-depth interviews with hospitality directors and guests, could give a deeper understanding of the mechanisms driving digitalization and personalization in SCRM. Third, unborn studies should examine the long-term goods of digital engagement on client trust and loyalty, particularly in response to evolving data sequestration regulations. Additionally, exploring the part of AI and machine literacy in enhancing substantiated services while maintaining ethical norms would be precious. Incipently, longitudinal exploration could give perceptivity into how profitable oscillations and competitive pressures impact the effectiveness of digitalized CRM strategies over time. Addressing these gaps will contribute to a further comprehensive understanding of sustainable relationship management in the hospitality industry.

5.6. Conclusion

This study highlights the essential part of sustainable customer relationship management (SCRM) in fostering long-term client connections and business adaptability in New York's hospitality industry. The findings confirm that digitalization of client engagement significantly enhances SCRM by perfecting functional effectiveness, optimizing client relations, and reducing resource waste. However, businesses must balance technological advancements with mortal-centered engagement to maintain authenticity and trust. Additionally, service personalization and customization play a pivotal part in strengthening SCRM by delivering acclimatized experiences that enhance customer satisfaction and loyalty. To achieve sustainability, hospitality enterprises must align these strategies with ethical data practices and evolving client prospects.

Moreover, customer trust and loyalty serve as a moderating factor in the relationship between service personalization and SCRM, although its impact is fairly modest. This highlights the need for transparent communication, strong data security, and harmonious service quality to cultivate long-term client commitment. While this exploration provides precious perceptivity, its geographic focus on New York limits its generalizability. Future studies should examine SCRM in different artistic surrounds and explore the integration of AI and sustainable business practices in hospitality CRM strategies. By effectively using digital metamorphosis, personalization, and trust-structure enterprise, businesses can achieve a more ethical, client-centric, and SCRM model.

REFERENCES

- 1) Agha Kasiri, L., & Mansori, S. (2016). Standardization, customization, and customer loyalty in service industry. *Journal of Marketing Analytics*, 4(2–3), 66–76. <https://doi.org/10.1057/s41270-016-0002-2>
- 2) Allan, M. (2021). Customers' Continuance Intention in Using a Mobile Navigation App in the Tourism Context: What Factors Will Lead?. *Academica Turistica-Tourism and Innovation Journal*, 14(2).

- 3) Ashqar, R. I., Ramos, C., Sousa, C., & Matos, N. (2023). CRM and smart technologies in the hospitality. In *Marketing and Smart Technologies: Proceedings of ICMarTech 2022, Volume 2* (pp. 113–124). Springer Nature Singapore. https://doi.org/10.1007/978-981-19-9099-1_9
- 4) Babbie, E. (2010). *The practice of social research* (12th ed.). Wadsworth.
- 5) Baksi, A. K., & Parida, B. B. (2013). An Empirical Study to Link CRM Initiatives with Service Quality Perception, Tourist Satisfaction and Destination Loyalty. *International Journal of Hospitality and Tourism Systems*, 6(2).
- 6) Bhat, I. H., Gupta, S., & Singh, S. (2024). The influence of sustainability communication on consumer loyalty and brand reputation. *Contemporary Studies in Economic and Financial Analysis*, 1–15. <https://doi.org/10.1108/s1569-37592024000113a001>
- 7) Bilgihan, A., Kandampully, J., & Zhang, T. (2016). Towards a unified customer experience in online shopping environments: Antecedents and outcomes. *International Journal of Quality and Service Sciences*, 8(1), 102–119. <https://doi.org/10.1108/IJQSS-07-2015-0054>
- 8) Bleier, A., De Keyser, A., & Verleye, K. (2018). Customer engagement through personalization and customization. In *Customer Engagement Marketing* (pp. 75–94). https://doi.org/10.1007/978-3-319-61985-9_4
- 9) Bock, D. E., Mangus, S. M., & Folse, J. A. G. (2016). The road to customer loyalty paved with service customization. *Journal of Business Research*, 69(10), 3923–3932. <https://doi.org/10.1016/j.jbusres.2016.06.002>
- 10) Bouncken, R. B., Kraus, S., & Roig-Tierno, N. (2019). Knowledge- and innovation-based business models for future growth: Digitalized business models and portfolio considerations. *Review of Managerial Science*, 15(1). <https://doi.org/10.1007/s11846-019-00366-z>
- 11) Brown, J. D. (2011). Likert items and scales of measurement. *Statistics*, 15(1), 10–14.
- 12) Bryman, A. (2012). *Social research methods* (4th ed.). Oxford University Press.
- 13) Chatterjee, S., & Chaudhuri, R. (2022). Adoption of artificial intelligence integrated customer relationship management in organizations for sustainability. In *Palgrave Studies in Cross-disciplinary Business Research, In Association with EuroMed Academy of Business* (pp. 137–156). https://doi.org/10.1007/978-3-030-76583-5_6
- 14) Coelho, P. S., & Henseler, J. (2012). Creating customer loyalty through service customization. *European Journal of Marketing*, 46(3/4), 331–356. <https://doi.org/10.1108/03090561211202503>
- 15) Creswell, J. W., & Creswell, J. D. (2018). *Research design: Qualitative, quantitative, and mixed methods approaches* (5th ed.). SAGE.
- 16) Doney, P. M., & Cannon, J. P. (1997). An examination of the nature of trust in buyer-seller relationships. *Journal of Marketing*, 61(2), 35–51. <http://dx.doi.org/10.1177/002224299706100203>
- 17) Faithfull, M. (2023). People, not points create loyalty in hospitality. *Hotel Management*. <https://www.hotelmanagement.net/operate/people-not-points-create-loyalty-hospitality>
- 18) Fakhimi, A., Garry, T., & Biggemann, S. (2023). The effects of anthropomorphised virtual conversational assistants on consumer engagement and trust during service encounters. *Australasian Marketing Journal*, 31(4), 314–324. <https://doi.org/10.1177/14413582231181140>
- 19) Fearon, R. M. P., & Roisman, G. I. (2017). Attachment theory: Progress and future directions. *Current Opinion in Psychology*, 15(1), 131–136. <https://doi.org/10.1016/j.copsyc.2017.03.002>
- 20) Ferrer-Estévez, M., & Chalmeta, R. (2022). Sustainable customer relationship management. *Marketing Intelligence & Planning*, 41(2), 244–262. <https://doi.org/10.1108/mip-06-2022-0266>
- 21) Gefen, D., Karahanna, E., & Straub, D. W. (2003). Trust and TAM in online shopping: An integrated model. *MIS Quarterly*, 27(1), 51–90. <http://dx.doi.org/10.2307/30036519>
- 22) Godefroit-Winkel, D., Schill, M., & Diop-Sall, F. (2021). Does environmental corporate social responsibility increase consumer loyalty? *International Journal of Retail & Distribution Management, ahead-of-print*(ahead-of-print). <https://doi.org/10.1108/ijrdm-08-2020-0292>
- 23) Hat, N. D., Tan, K.-L., Vi, N. L. N., Phu, N. A., & Ting, H. (2024). The influence of customer relationship management in enhancing hospitality business performance: The conditional mediation of digital marketing capabilities. *International Journal of Hospitality & Tourism Administration*, 1–27. <https://doi.org/10.1080/15256480.2024.2346142>
- 24) Issock, P. B., Roberts-Lombard, M., & Mpinganjira, M. (2020). The importance of customer trust for social marketing interventions: A case of energy-efficiency consumption. *Journal of Social Marketing*, 10(2), 265–286. <https://doi.org/10.1108/jsocm-05-2019-0071>

- 25) Jain, G., Rakesh, S., Kamalun Nabi, M., & Chaturvedi, K. R. (2018). Hyper-personalization – fashion sustainability through digital clienteling. *Research Journal of Textile and Apparel*, 22(4), 320–334. <https://doi.org/10.1108/rjta-02-2018-0017>
- 26) Jones, P., Hillier, D., & Comfort, D. (2016). Sustainability in the hospitality industry: Some personal reflections on corporate challenges and research agendas. *International Journal of Contemporary Hospitality Management*, 28(1), 36–67. <http://dx.doi.org/10.1108/IJCHM-11-2014-0572>
- 27) Kannan, P. K., & Healey, J. (2011). Service customization research: A review and future directions. In *The Science of Service Systems* (pp. 297–324). https://doi.org/10.1007/978-1-4419-8270-4_17
- 28) Khalufi, N. A. M., Sheikh, R. A., Khan, S. M. F. A., & Onn, C. W. (2025). Evaluating the impact of sustainability practices on customer relationship quality: An SEM-PLS approach to align with SDG. *Sustainability*, 17(2), 798. <https://doi.org/10.3390/su17020798>
- 29) Krejcie, R. V., & Morgan, D. W. (1970). Determining sample size for research activities. *Educational and Psychological Measurement*, 30(3), 607–610. <https://doi.org/10.1177/001316447003000308>
- 30) Lacey, R., Suh, J., & Morgan, R. M. (2015). Differential effects of preferential treatment levels on relational outcomes. *Journal of Service Research*, 18(2), 173–190. <http://dx.doi.org/10.1177/1094670506295850>
- 31) Ledro, C., Nosella, A., & Vinelli, A. (2022). Artificial intelligence in customer relationship management: Literature review and future research directions. *Journal of Business & Industrial Marketing*, 37(13), 48–63. <https://doi.org/10.1108/jbim-07-2021-0332>
- 32) Leso, B. H., Cortimiglia, M. N., & Ghezzi, A. (2022). The contribution of organizational culture, structure, and leadership factors in the digital transformation of SMEs: A mixed-methods approach. *Cognition, Technology & Work*, 25(1), 151–179. <https://doi.org/10.1007/s10111-022-00714-2>
- 33) Li, J., Lin, Z., & Zhang, X. (2023). The study on the effectiveness of sustainable customer relationship management: Evidence from the online shopping industry. *Sustainability*, 15(7), 5911. <https://doi.org/10.3390/su15075911>
- 34) Lin, C.-P., Tsai, Y. H., & Chiu, C.-K. (2009). Modeling customer loyalty from an integrative perspective of self-determination theory and expectation–confirmation theory. *Journal of Business and Psychology*, 24(3), 315–326. <https://doi.org/10.1007/s10869-009-9110-8>
- 35) Luu, T. T. (2017). CSR and organizational citizenship behavior for the environment in hotel industry. *International Journal of Contemporary Hospitality Management*, 29(11), 2867–2900. <https://doi.org/10.1108/ijchm-02-2016-0080>
- 36) Maghembe, M., & Magasi, C. (2024). The role of customer perceived value, brand trust and service personalization in shaping customer loyalty. *International Journal of Management, Accounting & Economics*, 11(9).
- 37) Martínez, P. (2015). Customer loyalty: Exploring its antecedents from a green marketing perspective. *International Journal of Contemporary Hospitality Management*, 27(5), 896–917. <https://doi.org/10.1108/ijchm-03-2014-0115>
- 38) McElroy, M. W., Jorna, R. J., & van Engelen, J. (2006). Rethinking social capital theory: A knowledge management perspective. *Journal of Knowledge Management*, 10(5), 124–136. <https://doi.org/10.1108/13673270610691233>
- 39) McKnight, D. H., Choudhury, V., & Kacmar, C. (2002). Developing and validating trust measures for e-commerce: An integrative typology. *Information Systems Research*, 13(3), 334–359. <http://dx.doi.org/10.1287/isre.13.3.334.81>
- 40) Morgan, R. M., & Hunt, S. D. (1994). The commitment-trust theory of relationship marketing. *Journal of Marketing*, 58(3), 20–38. <http://dx.doi.org/10.1177/002224299405800302>
- 41) Müller, A.-L. (2014). Sustainability and customer relationship management: Current state of research and future research opportunities. *Management Review Quarterly*, 64(4), 201–224. <https://doi.org/10.1007/s11301-014-0104-x>
- 42) Nagy, J. (2024). Hyper-personalization: The future of hotel marketing. *Hospitality Net*. <https://www.hospitalitynet.org/opinion/4120349.html>
- 43) Pallant, J. L., Sands, S., & Karpen, I. O. (2020). The 4Cs of mass customization in service industries: A customer lens. *Journal of Services Marketing*, 34(4), 499–511. <https://doi.org/10.1108/jsm-04-2019-0176>
- 44) Pham, T. N. (2024). Navigating Vietnamese Travelers Intention to Book Automated Services in Hotel. *International Journal of Hospitality and Tourism Systems*, 17(4), 100.
- 45) Quach, S., Thaichon, P., Martin, K. D., Weaven, S., & Palmatier, R. W. (2022). Digital technologies: Tensions in privacy and data. *Journal of the Academy of Marketing Science*, 50(1), 1299–1323. <https://doi.org/10.1007/s11747-022-00845-y>
- 46) Rahimi, R., Köseoglu, M. A., Ersoy, A. B., & Okumus, F. (2017). Customer relationship management research in tourism and hospitality: A state-of-the-art. *Tourism Review*, 72(2), 209–220. <https://doi.org/10.1108/tr-01-2017-0011>
- 47) Rather, R. A. (2020). Customer experience and engagement in tourism destinations: The experiential marketing perspective. *Journal of Travel & Tourism Marketing*, 37(1), 15–32.

Sustainable Customer Relationship Management in New York Hospitality Industry through Digitalization and Personalization

- 48) Sharma, V., & Bhat, D. A. R. (2022). Co-creation and technological innovation: The predictors of guest satisfaction and revisit intention in hospitality industry. *International Journal of Hospitality and Tourism Systems*, 15(1), 91.
- 49) Sheresheva, M. Y., Savelyev, I. I., Nadzharyan, N. N., & Kudryavtsev, A. V. (2020). Digital platforms in hospitality business. In *Lecture Notes in Networks and Systems* (Vol. 115, pp. 83–90). https://doi.org/10.1007/978-3-030-40749-0_10
- 50) Srivastava, R., Gupta, P., Kumar, H., & Tuli, N. (2023). Digital customer engagement: A systematic literature review and research agenda. *Australian Journal of Management*. <https://doi.org/10.1177/03128962231177096>
- 51) Sultan, P., & Yin Wong, H. (2012). Service quality in a higher education context: An integrated model. *Asia Pacific Journal of Marketing and Logistics*, 24(5), 755–784. <https://doi.org/10.1108/13555851211278196>
- 52) The Ritz-Carlton. (2025). The Ritz-Carlton Club | The Ritz-Carlton New York, Central Park. *Marriott Bonvoy*. <https://www.ritzcarlton.com/en/hotels/nyccp-the-ritz-carlton-new-york-central-park/club/>
- 53) Tiihonen, J., & Felfernig, A. (2017). An introduction to personalization and mass customization. *Journal of Intelligent Information Systems*, 49(1), 1–7. <https://doi.org/10.1007/s10844-017-0465-4>
- 54) Tornatzky, L. G., & Fleischer, M. (1990). *The processes of technological innovation*. Lexington Books.
- 55) Touni, R., Kim, W. G., Haldorai, K., & Rady, A. (2022). Customer engagement and hotel booking intention: The mediating and moderating roles of customer-perceived value and brand reputation. *International Journal of Hospitality Management*, 104, 103246.
- 56) Troisi, O., Visvizi, A., & Grimaldi, M. (2023). Digitalizing business models in hospitality ecosystems: Toward data-driven innovation. *European Journal of Innovation Management*, 26(7), 242–277. <https://doi.org/10.1108/ejim-09-2022-0540>
- 57) Turnšek, M., Brumen, B., Rangus, M., Gorenak, M., Mekinc, J., & Štuhec, T. L. (2020). Perceived threat of COVID-19 and future travel avoidance: Results from an early convenient sample in Slovenia. *Academica Turistica-Tourism and Innovation Journal*, 13(1).
- 58) Visser, M. (2017). Pragmatism, critical theory and business ethics: Converging lines. *Journal of Business Ethics*, 156(1), 45–57. <https://doi.org/10.1007/s10551-017-3564-9>
- 59) Wu, X., & Huo, Y. (2023). Impact of the introduction of service robots on consumer satisfaction: Empirical evidence from hotels. *Technological Forecasting and Social Change*, 194, 122718.
- 60) Zhang, R., Li, H., Chen, A., Liu, Z., & Lee, Y.-C. (2024). AI privacy in context: A comparative study of public and institutional discourse on conversational AI privacy in the US and Chinese social media. *Social Media + Society*, 10(4). <https://doi.org/10.1177/20563051241290845>

Appendix

Table 1 Cronbach's Alpha of the dependent variable

Reliability Statistics				
	Cronbach's Alpha	N of Items		
	.733	4		

Item-Total Statistics				
	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
SCRM1	9.74	10.71	.607	.625
SCRM2	8.56	10.64	.632	.678
SCRM3	8.98	10.43	.650	.697
SCRM4	10.32	11.22	.721	.727

Source: (The authors, 2025)

Where SCRM1, SCRM2, SCRM3, SCRM4 are coded for survey questions 1, 2, 3, 4 of sustainable customer relationship management in the hospitality industry respectively.

Sustainable Customer Relationship Management in New York Hospitality Industry through Digitalization and Personalization

Table 2 Rotated Component Matrix for the 2 independent variables

Rotated Component Matrix ^a Component with loading factors					
1			2		
DCE1	.688		SPC1	.735	
DCE2	.723		SPC2	.752	
DCE3	.754		SPC3	.767	
DCE4	.811		SPC4	.666	
Extraction Method: Principal Component Analysis.					
Rotation Method: Varimax with Kaiser Normalization.					
a. Rotation converged in 4 iterations.					

Source: (The authors, 2025)

Where DCE1, DCE2, DCE3, DCE4; SPC1, SPC2, SPC3, SPC4 are coded for survey questions 1, 2, 3, 4 of digitalization of customer engagement and service personalization & customization respectively.

Table 3 Coefficients^a

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	6.320	.823		5.336	.000
1 DCE	.647	.735	.760	4.703	.000
SPC	.868	.462	.823	5.692	.000

a. Dependent Variable: SCRM

Source: (The authors, 2025)

Where **SCRM**: mean of SCMR1, SCRM2, SCRM3, SCRM4;

DCE: mean of DEC1, DCE2, DCE3, DCE4; **SPC**: mean of SPC1, SPC2, SPC3, SPC4

Table 4 Moderator results analysis

Model : 1

Y : SCRM

X : SPC

W : CTL

Sample

Size: 385

OUTCOME VARIABLE:

SCRM

Model Summary

R	R-sq	MSE	F	dl1	dl2	p
.734	.719	.356	6.372	3.000	381.000	.000

Model

	coeff	se	t	p	LLCI	ULCI
constant	3.787	.293	75.203	.000	5.395	5.111
SPC	.362	.287	2.364	.000	.248	.202
CTL	.438	.384	6.003	.000	.245	.217
Int_1	.480	.185	6.387	.000	.388	.266

Sustainable Customer Relationship Management in New York Hospitality Industry through Digitalization and Personalization

Where CTL: mean of CTL1, CTL2, CTL3, CTL4

Source: (The authors, 2025)

Table 5: Survey design

Main survey questions			
Variables	Item Number	Measurement Item	Sources
Sustainable Customer Relationship Management (SCRM)	SCRM1	Our organization implements CRM strategies that contribute to long-term customer satisfaction and retention.	(Frow & Payne, 2009)
	SCRM2	We apply environmentally and socially responsible measures to our customer relationship management approach.	(Khalufi et al., 2025); (Ferrer-Estévez & Chalmeta, 2022); (Ledro et al., 2022)
	SCRM3	Our CRM systems are designed to support both business goals and community well-being.	
	SCRM4	We use digital CRM tools (e.g., AI, data analytics) to create meaningful, lasting relationships with our customers.	
Digitalization of Customer Engagement (DCE)	DCE1	Our hotel/organization regularly utilizes digital platforms (e.g., mobile apps, websites, social media) to interact with customers effectively.	(Srivastava et al., 2023)
	DCE2	The digitalization of customer engagement has enabled our business to better understand customer needs and behaviors.	(Bouncken et al., 2021); (Hat et al., 2024); (Chatterjee & Chaudhuri, 2022)
	DCE3	Digital tools allow our business to deliver faster, more accurate, and customized services to each customer.	
	DCE4	I believe that adopting digital platforms for customer engagement positively contributes to building sustainable relationships with our customers.	
Service Personalization and Customization (SPC)	SPC1	Our organization offers personalized services tailored to individual customer preferences, based on customer data and behavioral insights.	(Tiihonen & Felfernig, 2017)
	SPC2	Customers are given the ability to customize their service experiences (e.g., room settings, meal preferences, check-in options) according to their specific needs.	(Coelho & Henseler, 2012); (Bleier et al., 2018); (Jain et al., 2018)

Sustainable Customer Relationship Management in New York Hospitality Industry through Digitalization and Personalization

	SPC3	The use of personalization and customization strategies contributes to reducing unnecessary services or products, supporting more sustainable operations, sustainable customer relationships.	
	SPC4	I believe that offering personalized and customizable services significantly strengthens long-term customer relationships in our organization.	
Customer Trust and Loyalty (CTL)	CTL1	Customer trust is the confidence customers place in a company's reliability, integrity, and ability to deliver on its promises.	(Martínez, 2015)
	CTL2	The significance of customer trust and loyalty cannot be overstated, as they play a critical role in business sustainability and long-term success.	(Bhat et al., 2024); (Fearon & Roisman, 2017)
	CTL3	Thanks to customer trust and loyalty, the impact of service personalization is moderated, making customers more receptive to customized offerings, thereby contributing to the sustainability of customer relationships.	
	CTL4	The Ritz-Carlton's personalized approach exemplifies how service customization strengthens customer loyalty, which in turn reinforces the sustainability of CRM practices by ensuring repeat business and brand advocacy.	

Background information					
1	What is your role in the hospitality value chain?	Hotel guest	Customer service/front desk staff	Hotel manager	Other (please specify):
2	Which type of hotel do you work at or frequently stay in?	Luxury hotel (e.g., 5-star, premium service)	Boutique hotel (e.g., unique, small-scale, design-oriented)	Economy or budget hotel (e.g., 2-3 star, value-driven)	Other (please specify):
3	What is your level of engagement with digital CRM tools (e.g., personalized offers, loyalty programs, mobile check-in)?	High – I regularly use/provide digital CRM services	Moderate – I occasionally use/provide these services	Low – I rarely or never engage with these services	

Sustainable Customer Relationship Management in New York Hospitality Industry through Digitalization and Personalization

4	In which borough of New York City are you primarily based or most frequently stay?	Manhattan	Brooklyn	Not based in NYC, but frequently travel there	Other (please specify):
---	--	-----------	----------	---	-------------------------

Source: (The authors, 2025)

Link of the survey:

<https://docs.google.com/forms/d/e/1FAIpQLScbnO->

[ASFp4nb4QC_dxhcx5wdyx3O7PTlwEa5Aa8QM9Psa8Cg/viewform?usp=dialog](https://docs.google.com/forms/d/e/1FAIpQLScbnO-ASFp4nb4QC_dxhcx5wdyx3O7PTlwEa5Aa8QM9Psa8Cg/viewform?usp=dialog)



There is an Open Access article, distributed under the term of the Creative Commons Attribution – Non Commercial 4.0 International (CC BY-NC 4.0) (<https://creativecommons.org/licenses/by-nc/4.0/>), which permits remixing, adapting and building upon the work for non-commercial use, provided the original work is properly cited.