



Quantifying The Impact Of Service Innovation Perceptions On Customer Loyalty In The Restaurant Industry During The Covid-19 Crisis: A Pls-Sem Approach

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ABSTRACT

Introduction: The global restaurant industry underwent a seismic shift in response to the COVID-19 crisis, compelling rapid adaptations to ensure safety and customer satisfaction. This study addresses the evolving landscape by investigating the impact of service innovation on customer loyalty, recognizing the complexities introduced by the pandemic.

Problem Statement: The pandemic's unprecedented challenges necessitated a reevaluation of traditional factors influencing customer choices, requiring restaurants to innovate their services. However, the intricate dynamics of how service innovation affects customer loyalty during crises like COVID-19 remain unclear, prompting the need for focused research.

Purpose: This research aims to unravel the nuanced relationships between service innovation perceptions and customer loyalty within the restaurant industry in Tamil Nadu, India, during the COVID-19 crisis.

Materials and Methods: Conducted in December 2020, this study employed a convenience sampling approach, gathering data from 450 respondents who had visited restaurants during the pandemic. An online survey, constructed using Google Forms, assessed demographic information and measured customer perceptions related to service innovation, risk, emotional experience, reputation, customer commitment, and loyalty. Established scales from prior literature were modified to suit the COVID-19 context, and the data were analyzed using Partial Least Square Structural Equation Modeling (PLS-SEM).

Results: The findings reveal a significant direct impact of service innovation on customer loyalty (Path Coefficient = 0.615, $p < 0.001$). Surprisingly, risk perception did not significantly mediate this relationship (Path Coefficient = 0.000, $p = 0.499$). In contrast, emotional experience (Path Coefficient = 0.117, $p < 0.001$), reputation (Path Coefficient = 0.052, $p < 0.001$), and commitment (Path Coefficient = 0.227, $p < 0.001$) emerged as influential mediators. Direct effects of service innovation on risk, emotional experience, reputation, and commitment were all statistically significant ($p < 0.05$).

Conclusions: The unexpected findings regarding risk perception highlight the need for businesses to prioritize emotional experiences, reputation, and customer commitment in service innovation strategies. The outcomes provide practical guidance for restaurants navigating pandemic uncertainties, emphasizing the importance of a holistic approach to customer perceptions to foster sustained loyalty.

Keywords: Service Innovation, Customer Loyalty, COVID-19, PLS-SEM, Restaurant Industry.

Introduction

In the wake of the COVID-19 pandemic, the global consumer landscape has undergone a transformative shift, necessitating adaptive strategies across industries. This metamorphosis is particularly evident in the restaurant sector, where the profound impact of the pandemic has prompted a rapid reevaluation of operational paradigms to ensure safety, hygiene, and customer satisfaction. Recent studies by Hang et al. (2020), Hu et al. (2021), and Sharma et al. (2021) highlight the industry's swift embrace of service innovation as a pivotal tool to navigate the complexities of the evolving landscape [1, 2]. The COVID-19 crisis has not only disrupted traditional factors influencing customer choices, such as food quality and ambiance, but has also ushered in a paradigm shift in decision-making processes. Safety measures, hygiene standards, and innovative service strategies have emerged as decisive factors in reshaping the restaurant industry's approach to branding and customer experiences [3, 4]. The economic repercussions have been substantial, with the industry reporting significant revenue losses, underscoring the urgent need for technological innovations to ensure environmental safety, prevent overcrowding, and prioritize consumer well-being [5].

In response, restaurants have swiftly implemented tech-based service innovations, such as mobile self-billing systems and robot-operated cleaning processes, aligning with WHO guidelines to minimize direct contact and enhance hygiene standards [4]. However, amidst these changes, research on the effects of service innovation on customer perceptions and loyalty has gained prominence. The intricate mediation through factors like risk perception, emotional experiences, reputation, and customer commitment in the relationship between service innovation and loyalty became evident [6, 7]. This complexity necessitates further exploration to elucidate the mechanisms underlying service innovation's impact on customer loyalty, particularly in crises like the COVID-19 pandemic [8]. The role of service innovation in mitigating risk, enhancing emotional experiences, fortifying reputation, and fostering customer commitment has emerged as crucial in shaping customer perceptions and behaviors within the restaurant industry [9, 10, 11]. Recognizing that service innovation significantly influences customer attitudes, particularly in ensuring safety and hygiene, underscores the critical need for restaurants to adapt and demonstrate commitment to innovative strategies across various customer touchpoints [12]. Against this backdrop, our research aims to investigate the profound impact of service innovation perceptions on customer loyalty during the COVID-19 crisis. Specifically, the study seeks to unveil the direct correlation between how customers perceive service innovation and the resultant influence on their loyalty, crucial in a landscape shaped by the pandemic. In essence, this research sheds light on the dynamic interconnections between service innovation perception and customer loyalty in the context of the COVID-19 pandemic within the restaurant industry. Understanding these intricate dynamics is essential in navigating the evolving landscape and formulating strategies that cater to customers' evolving needs and perceptions.

Materials and Methods

Sampling and Data Collection

This study utilized a convenience sampling approach within the restaurant sector in Tamil Nadu, India to gather data relevant to the impact of service innovation perception on customer loyalty during the COVID-19 pandemic. The minimum qualification for participation necessitated individuals to have visited a restaurant during the specified period of the pandemic. The data collection process occurred in December 2020, employing an online survey constructed through Google Forms. A total of 450 respondents participated in the survey. The survey distribution adhered to strict restrictions during the pandemic, relying on purposive sampling due to limited accessibility.

Demographic and Survey Instruments

The questionnaire comprised two sections. The first part encompassed demographic queries, including country, age, and gender. The subsequent section encompassed measurement items related to customer perceptions. These encompass service innovation, risk, emotional experience, reputation, customer commitment, and customer behavioral loyalty. Measurement items were appraised using a 5-point Likert scale ranging from 1 (Strongly Disagree) to 5 (Strongly Agree). To address the COVID-19 context, a modified version of existing scales was employed. Two experts, one specialized in the hospitality sector and the other well-versed in social responsibility and the hospitality industry, reviewed the modified scale.

Instruments and Analysis

The study employed established scales from prior literature to measure distinct constructs: service innovation, comprising five items adapted from Heinonen & Strandvik (2021b); risk perception, encompassing four items adapted from Pappas (2015); emotional experience, evaluated through 7 items derived from Serra-Cantalops et al. (2020); customer reputation, measured using five items sourced from Weiss et al. (2018); customer commitment, assessed through 5 items drawn from Bridson et al. (2008); and customer loyalty, comprising six items adapted from Bridson et al. (2008). These scales, derived from established literature, facilitated a comprehensive examination of customer perceptions within the context of service innovation and its impact on loyalty during the COVID-19 pandemic in the restaurant sector in Tamil Nadu, India [13, 14, 15].

Data Analysis

Partial Least Square Structural Equation Modeling (PLS-SEM) was employed for data analysis. This methodology was chosen due to its proven ability to accurately analyze intricate cause-and-effect relationships within business and management research models.

Result

The research study findings demonstrate a noteworthy direct influence of service innovation on customer loyalty, while risk appears less influential. Notably, emotional experience, reputation, and commitment play pivotal roles as effective mediators, highlighting their significance in linking service innovation to heightened customer loyalty amid the complexities of the COVID-19 pandemic.

Mediation Analysis

The mediation analysis investigates service innovation's total and indirect effects on customer loyalty, mediated by risk, emotional experience, reputation, and commitment. The total effect (Path Coefficient = 0.615, T Statistics = 15.861, $p < 0.001$) indicates a significant direct impact of service innovation on loyalty. The indirect effects through risk were non-significant (Path Coefficient = 0.000, T Statistics = 0.003, $p = 0.499$). In contrast, emotional experience (Path Coefficient = 0.117, T Statistics = 4.137, $p < 0.001$), reputation (Path Coefficient = 0.052, T Statistics = 3.346, $p < 0.001$), and commitment (Path Coefficient = 0.227, T Statistics = 7.004, $p < 0.001$) demonstrated significant mediating effects **Table 1**.

Table 1. Direct and Indirect Effects of Service Innovation on Customer Loyalty and Mediating Variables

Total Effect Service Innovation > Loyalty			Indirect Effect Service Innovation > Loyalty			Variables	Indirect Effects			
PC	TS	P values	PC	TS	P values		PC	SD	TS	P values
0.615	15.861	0.000	0.096	1.768	0.039	Service Innovation > Risk > Loyalty	0.000	0.015	0.003	0.499
						Service Innovation > Emotional Experience > Loyalty	0.117	0.028	4.137	0.000
						Service Innovation > Reputation > Loyalty	0.052	0.015	3.346	0.000
						Service Innovation > Commitment > Loyalty	0.227	0.032	7.004	0.000

*PC – Path Coefficient, *TS – T Statistics, *SD - Standard Deviation

Service Innovation Impact on Customer Loyalty and Related Constructs

The Table 2 shows that the direct effects of service innovation on loyalty and its indirect effects on risk, emotional experience, reputation, and commitment. The direct effect on loyalty was significant (Path Coefficient = 0.096, T Statistics = 1.768, $p = 0.039$). Additionally, service innovation significantly influenced risk (Path Coefficient = 0.364, T Statistics = 7.523, $p < 0.001$), emotional experience (Path Coefficient = 0.547, T Statistics = 14.998, $p < 0.001$), reputation (Path Coefficient = 0.240, T Statistics = 4.664, $p < 0.001$), and commitment (Path Coefficient = 0.517, T Statistics = 11.063, $p < 0.001$). These findings underscore the intricate relationships and mediating roles of emotional experience, reputation, and commitment in the connection between service innovation and customer loyalty during the challenges posed by the COVID-19 pandemic.

Table 2. Analysis of the relationships between service innovation and customer loyalty, along with its interconnected effects on various constructs

	Path Coefficient	Standard Deviation	T Statistics	P Values
Service Innovation -> Loyalty	0.096	0.054	1.768	0.039
Service Innovation -> Risk	0.364	0.048	7.523	0.000
Service Innovation -> Emotional Experience	0.547	0.036	14.998	0.000
Service Innovation -> Reputation	0.240	0.051	4.664	0.000
Service Innovation -> Commitment	0.517	0.047	11.063	0.000

Discussion

This research aims to uncover the profound impact of service innovation perceptions on customer loyalty during the COVID-19 crisis. The significant direct effect highlights the crucial role of innovative approaches in fostering customer loyalty. Amid the pandemic-induced transformations, customers' perceptions of a company's innovative strategies emerge as a critical determinant of their loyalty [16]. The overarching analysis unveils a robust direct impact of service innovation on customer loyalty (Path Coefficient = 0.615, T Statistics = 15.861, $p < 0.001$). This highlights the significant role of innovative strategies in influencing and shaping customer loyalty, especially given the challenges posed by the current pandemic. A closer inspection of the mediation pathways provides nuanced insights. Unexpectedly, the mediation path through risk proves to be non-significant (Path Coefficient = 0.000, T Statistics = 0.003, $p = 0.499$). This result suggests that risk perception might not be a substantial mediating factor in the relationship between service innovation and customer loyalty during the current crisis. In contrast, emotional experience (Path Coefficient = 0.117, T Statistics = 4.137, $p < 0.001$), reputation (Path Coefficient = 0.052, T Statistics = 3.346, $p < 0.001$), and commitment (Path Coefficient = 0.227, T Statistics = 7.004, $p < 0.001$) emerge as significant mediators. These findings underscore the importance of emotional engagement, perceived reputation, and commitment in bridging the link between service innovation and heightened customer loyalty during tumultuous times [17, 18]. Table 2 provides further insights into the direct relationships between service innovation and various constructs. The statistically significant direct effects on loyalty, risk, emotional experience, reputation, and commitment (all with $p < 0.05$) underscore the intricate web of connections between service innovation and diverse facets of customer perceptions and behaviors.

For businesses grappling with the challenges of the pandemic, recognizing the substantial direct impact of service innovation on loyalty becomes paramount. Simultaneously, understanding the nuanced mediation roles of emotional experience, reputation, and commitment offers actionable insights [19, 20]. Crafting innovative strategies that directly impact loyalty, resonate emotionally, enhance reputation, and foster commitment can prove instrumental for businesses navigating the uncertainties of the current global crisis [21]. The research findings indicate that while risk perception might not directly mediate this relationship, emotional experience, reputation, and commitment act as robust mediators, unraveling the complex interplay between service innovation and customer loyalty [22].

Conclusions

The research study illuminates the intricate dynamics between service innovation and customer loyalty during the challenges of COVID-19. The robust direct impact of service innovation on loyalty underscores its critical role, urging businesses to prioritize innovative strategies for customer retention. Surprisingly, risk perception is a non-significant mediator, emphasizing the need for a nuanced understanding of customer behavior during crises. However, emotional experience, reputation, and commitment emerge as pivotal mediators, emphasizing the importance of fostering positive emotional connections, maintaining a solid reputation, and building customer commitment to enhance the impact of service innovation on loyalty. These findings provide actionable insights for businesses navigating the uncertainties of the pandemic, guiding them to strategically leverage service innovation while prioritizing emotional engagement and commitment to fortify customer loyalty in turbulent times.

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