Explaining the Linkage Between Contactless Practices and Consumer Behaviour: An Empirical Investigation on Hotel Services

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Abstract

Corona Virus Infections Disease 19 (COVID-19) has forced the hotel community to adopt contactless services practices. In this reference, the current study aims to examine consumer awareness, expectations, and experience with Contactless Services Practices (CSP) and their impact on consumer satisfaction and perceived performance outcomes. The association between contactless practices and hotel performance outcomes is examined, along with the role that customer satisfaction plays as a moderator. Structural equation modelling, SEM-PLS is used to analyze a total of 337 responses using the SPSS 22 version. The results indicate that contactless practices have a significant impact on customer satisfaction and performance outcomes in terms of length of stay. The results also showed that the relationship is mediated by customer satisfaction between contactless service practices and perceived performance outcomes. The study adds to the understanding of how "innovative service design" can improve customer satisfaction, passionate connection, and mental assessment of accommodation brands. The novelty of this study is showing the relationship between contactless practices and consumer behaviour in hotel services during the pandemic.

Keywords: COVID-19 pandemic; Hotel services; Contactless service practices; Consumer Satisfaction; perceived performance outcomes

1. Introduction

The global economy and human race have suffered greatly as a result of the COVID pandemic. While all sectors of the economy suffered from this pandemic, the tourism and hospitality sector experienced a more devastating

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impact (Gösslinget al., 2020). The tourism and hospitality industry has faced several challenges during and after the COVID pandemic, including maintaining consumer trust, enhancing customer safety, reducing customer perceived risks, cost reduction, maintaining productivity, and providing memorable customer experiences to remain competitive. Technological innovations that may have been primarily designed for potential augmentation or gaining competitive advantage unexpectedly became requirements (Ivanov& Webster, 2021). Adoption of modern technology has given the travel and hospitality industries a competitive edge, increased operational efficiency, and the ability to offer distinctive customer experiences (Kala, 2022).Throughout the pandemic, technology-enabled, touchless, and flexible contactless services have emerged as a cutting-edge approach to service design (Min, 2020).Since many contactless technical services, like contactless payment, QR codes, prior to the pandemic, facial recognition and keyless entry were already, commonplace, contactless services were not invented because of it. The pandemic, however, has hastened its acceptance on a global scale. Because of the epidemic, this high-touch business is now moving toward becoming high-tech. Tourism and hospitality businesses can offer a safe environment for their customers and staff while upholding a high standard of service by utilizing contactless services, which are designed to reduce the spread of the COVID-19 virus (Kim et al., 2021; Hao et al., 2020). Additionally, in accordance with World Health Organization health recommendations, the hospitality sector reevaluated its current service procedures and created contactless solutions to protect clients and staff.

Through contactless check-ins, payments, housekeeping services, restaurant services, and other services, the hotel business adopted contactless service to satisfy clients' growing need for hygiene, cleanliness, and safety requirements (Chen et al., 2021; Pillai et al., 2021; Cheung et al., 2021). While the hotel industry implemented these contactless services to improve customer trust and eliminate perceived risks of COVID-19, there is a need to address the customer experience and satisfaction with such services and the contribution of contactless services to hotel performance in the context of India. There are several reasons for this research work. First, the contribution (both direct and indirect) of the tourism and hospitality sector is significant to the Indian economy. Second, India was one of the hotspots of the COVID pandemic and witnessed the heavy loss of human lives during the pandemic. Third, the socio-demographic differences are quite in India in terms of technology usage, willingness to pay for contactless services, level of hygiene, and socio-cultural attributes.

The goals of this study are to (a) ascertain how customers felt about the contactless services provided by hotels during the pandemic; (b) assess the level of customer satisfaction with hotels' contactless services; and (c) assess whether or not customer satisfaction acts as a mediating factor

in the relationship between contactless services and hotel performance. The outcomes of the study will be beneficial for hotel managers and entrepreneurs to decide on technological interventions in hotel services delivery, prioritizing the areas of contactless services design and overall, creating a safe and memorable customer experience to gain a competitive advantage.

2. Background and hypothesis development

2.1. Contactless service practices and perceived outcome

The COVID-19 pandemic is causing enormous economic damage on a global scale. The global economy is in a murky recession (United Nations Organizations, 2020). Globally, this epidemic has had an effect on economies and society. Additionally, it is anticipated to aggravate global inequity and destitution (United Nations Development Program, 2020), leading to unique shifts in consumer behavior and vulnerability (McKinsey and Company, 2020). Due to the decreased requirement for travel and hotel, consumers' attitudes toward travel have changed, and they are now more interested in teleconferences like webinars (Jittrapirom and Tanaksaranond, 2020). The pandemic has resulted in friendly separation, lockdowns, self-detachment, and travel restrictions, as well as a decrease in labor force participation across all sectors (Nicola et al. 2020). Customers' spending on inns and cafés has dropped dramatically because of social separating standards and constant lockdowns (Baker et al. 2020). In today's era, Indian guests have some preferences for brand image, and star category of hotels, and expect hotels to follow all such practices for safety measures (Hussain and Kareem, 2020). As the pandemic has influenced consumer behaviour toward the lodging industry, inns are implementing all of the basic security measures recommended by the WHO and the Ministry of Tourism in order to protect their visitors. Currently, technologically advanced and contactless services are required (Chua et al. 2020). One key technique for controlling organizational performance in the hotel business is the use of contactless services practices. Various contactless services have been extensively researched. Many researchers like Hao and Chon (2022), Jittrapirom and Tanaksaranond, (2020); Baker et al. (2020); Chua et al. (2020) discovered that implementing contactless assistance as a creative assistance plan in the hotel industry can produce clients' passionate connection and mental assessment of the brand. The following hypothesis is derived from the preceding discussion:

H1: Contactless service practices have a positive influence on perceived outcomes in terms of performance.

2.2. Contactless service practices and customer satisfaction

The majority of consumers have been pleased with the contactless hospitality provided by hotels. The study discovered that post-COVID-19 shock has an impact on customers' anticipated emotions and beliefs, resulting in the need for self-protection behaviour and adaptive beliefs (Foroudi et al. 2020). There is the significance of current advancements that help to eliminate physical contact and enhance activities and administrations that offer a direct added benefit to warm relationships and consumer fulfilment (Rahimizhian and Irani, 2020). Saanchi and Kumar (2021) sought to ascertain customer satisfaction with regard to contactless hospitality and hygienic dining services provided to guests during a pandemic. Their findings suggested the use of touch-less technology, authentic safety measures, and a safe Dine-in, particularly during this pandemic. To avoid direct contact with customers, popular lodging brands such as "Marriott and Hilton" are implementing "bright light innovation" and "electrostatic sprayers" for disinfection (CNBC, 2020). There is the impact of the COVID-19 pandemic on preferences and behaviour toward hygiene, safety, and various services, and satisfaction with touch-less technology in hotel services was discovered during the COVID-19 pandemic (Dash et al. 2021). The following hypothesis is derived from the preceding discussion:

H2: Contactless service practices have a positive influence on customer satisfaction.

2.3. Consumer satisfaction with contactless services practices and performance outcomes.

Customer satisfaction has a significant impact on a variety of factors, including loyalty to the particular business, interest in certain word-of-mouth promotion progress, and willingness to pay higher prices, among others (Amin et al. 2013; Ali et al. 2017). These pleasures are connected to the kind, diversity, and administrations offered by a destination in the hospitality and tourism sector. A pleasant reaction to a product or administrative experience is what Oliver (1980) calls customer satisfaction. Such a response is contingent on a client's confirmation of his or her convictions and assumptions regarding administration execution. Many studies have been conducted in order to discover viable marketing tactics for increasing customers' intent to return. Customer satisfaction is an important factor in corporate sustainability. Because these factors influence customer behaviour, particularly repurchase intentions, the relative importance of emotional antecedents on perceived value and pleasure is critical (Ali et al. 2016; Gallarza et al. 2013). Tourists' proclivity to return to a venue based on their origin is influenced by perceived satisfaction (Bonera et al. 2017; Martn et al. 2020). As a result, in order to satisfy visitors to the greatest

extent possible, tourist service providers must observe the elements that go into making them satisfied. A satisfied client with the quarantine hotel's perceived image would return, and revisit intention is not a choice to return; rather, it is an extension of contentment (Wang et al., 2021). According to the literature reviewed above, consumer satisfaction leads to better performance outcomes (Longer stay, Revisit intention, Reference, word-of-mouth promotion, Market Penetration, more customers, etc.). Theabove discussion leads to the following hypothesis:

H3: Consumer satisfaction with contactless services practices in hospitality has a positive influence on bringing performance outcomes.

2.4. Contactless service practices: Consumer satisfaction with contactless services practices and performance outcomes

As a result of the COVID-19 epidemic, the hotel sector has begun to adopt a more technologically advanced and less personal approach. The biggest changes brought about by the pandemic in the hospitality industry are customers' concerns about social alienation, hygiene, health, and sustainability (Hao et al., 2020). After the pandemic, these adjustments will continue to occur and eventually establish the "new normal" for the hotel industry. The "new normal" during the pandemic was a technology-enabled, touchless, and adaptable service design (Min, 2020). This makes it feasible for hospitality businesses to maintain high service standards and provide the safest experience possible for both clients and employees (Kim et al., 2021).It further results inperceived performance outcomes such as customer loyalty, trust, revisit intentions, delight, and satisfaction. Satisfaction has a cascading effect that includes, among other things, commitment to the service provider, involvement in effective word-of-mouth promotion, and higher costs (Ali et al. 2017, 2016; Dedeoglu and Demirer 2015). A satisfied client with the quarantine hotel's perceived image would return, and revisit intention is an extension of contentment rather than a decision to return (Wang et al., 2021). To draw attention to the aforementioned literature, research on the role of customer happiness as a mediator between contactless practices and hotel performance results is required. These ideas lead to the following hypothesis being developed:

H4: Consumer satisfaction with contactless services mediates the relationship between contactless service practices and perceived outcomes.

Consequently, Figure 1 presents the suggested study paradigm, which shows that contactless service methods impact both the perceived result and customer satisfaction. Further, consumer satisfaction with contactless services practices in hospitality has an influence on bringing performance outcomes. Consumer satisfaction with contactless services mediates the relationship between contactless service practices and perceived outcomes.
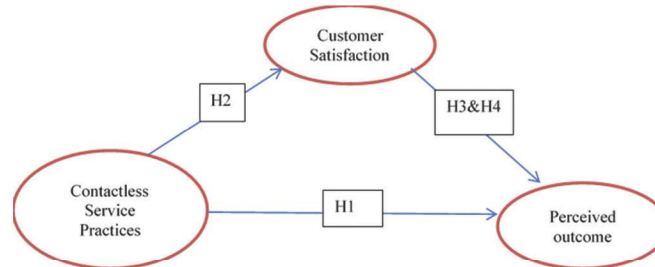
Figure 1: Theoretical framework

3. Research Methodology

3.1. Survey Characteristic

Scales appropriate for this research were created using the normal process for creating psychometric measures. The variables for the study were derived after an extensive literature assessment, guaranteeing their content validity. The data were gathered via a cross-sectional self-administered survey. The survey consisted of four sections. The study's goals and a description of the research were presented in Section 1. Section 2 featured information about the respondents' demographic characteristics. Section 3 outlined a series of closed-ended questions about customer expectations and experiences with contactless procedures implemented by hotels during COVID-19. Section 4 comprised questions related to client satisfaction and performance. Every item for every construct is evaluated on a five-point Likert scale, where 1 represents strongly disagree and 5 represents strongly agree. A self-structured questionnaire covering different dimension of contactless practices, consumer satisfaction, and perceived outcomes were developed on the basis of previous studies by Sembiring et al., (2021); Aharon et al., (2021). Contactless services practices like contactless service at the reception counter, brand image, social practices, socioeconomic issues, food and beverages, Customer Knowledge, and Cultural factors were identified as important constructs and additional measurement variables were created. A total of seven measurement variables were created to measure customer satisfaction and another seven to measure perceived outcomes (Wong and Yeh, 2009; Quintal et al., 2010).

3.2. Data Collection and Sampling Technique

The convenience sampling method described by Ferber (1977) was used to select our sample. Survey items that are pertinent to the participants, represent the entire population, and provide a sufficient sample are required for convenience sampling. Data werecollected duringthe COVID-19 using self-structured standard questionnaires viathe internet and hotel clients. Atotal of 412 questionnaires were filled out. After removing inaccurate or

partial answers, the data analysis was based on 337 replies from the 412 questionnaires that were sent. The final response count was large enough to satisfy the parameters of the model. There isa total of 337 samples in our final analysis. Our demographics is showing interesting findings that the sample is dominated by a relatively young population. Respondents in the age group of 20-30 years comprise 70.6% of respondents in the sample.49.6% of respondents are females and the remaining 50.4% are males out of which the majority were unmarried (70%) see table 1. The sample comprise Post graduated, research scholars and PhD degree to their credit, however majority of the respondents are still studying (53.7%) with a family income up to Rs. 20,000PM (49.6%). The respondents' demographic characteristics and details are shown in table 1 and Table 2.

Table1: Respondents' demographic characteristics

Categories	Description	No of respondents	Percentage
Age	Up to 20 yrs.	18	5.3
	20-30 yrs.	238	70.6
	30-40 yrs.	42	12.5
	40-50 yrs.	12	3.6
	50 -60 years	16	4.7
	More than 60 Years	11	3.3
Gender	Female	167	49.6
	Male	170	50.4
Marital status	Married	95	28.2
	Unmarried	236	70.0
	Separated	1	.3
	Prefer not to say	5	1.5
Education level	Up-to 12th	14	4.2
	Graduation	73	21.7
	Post-graduation	204	60.5
	Research scholar	9	2.7
	Ph.D.	16	4.7
	Others	21	6.2
Occupation	Government job	20	5.9
	Private job	76	22.6
	Unemployed	20	5.9
	Students	181	53.7
	Research scholar	24	7.1
	Others	16	4.7
Income Level	Up-to 20,000	167	49.6
	20,000 - 30,000	47	13.9
	30,000 - 40,000	23	6.8
	40,000 - 50,000	38	11.3
	50,000 & above	62	18.4
Status of Child	Have child	46	13.6
	Don't have child	291	86.4

Table 2: Demographic details

Categories	Description	No of respondents	Percentage
Stayed in the hotel during the COVID-19 pandemic	Stayed after 1st wave	200	59.3
	Stayed after 2nd wave	137	40.7
Mode of Booking	Via mobile apps	147	43.6
	Via websites	81	24.0
	Via social media	7	2.1
	On the spot	97	28.8
	Others	5	1.5
Awareness of Contactless practices	Yes	281	83.4
	No	56	16.6
Digital competency	Yes	289	85.8
	No	48	14.2
Opinion about Contactless Process reduces the risk and its safe during the COVID-19 pandemic	Yes	288	85.5
	No	49	14.5
Whether testing for COVID-19 before check-in at Hotel	Yes	176	52.2
	No	161	47.8
Following protocol made by the Ministry of Tourism during the COVID-19 pandemic	Yes		
	No	282	83.7
		55	16.3
Purpose of travel	Leisure trip	53	15.7
	Business trip	63	18.7
	Family trip	151	44.8
	Trip to overcome the boredom of Home Quarantine/stay	45	13.4
	Others	25	7.4
Kind of accommodation you booked during the COVID-19 Pandemic	Hotel	257	76.3
	Home stay	37	11.0
	Personal guest house	17	5.0
	Cottage villa	21	6.2
	Others	5	1.5
The prime attraction for booking Hotel Service during the COVID-19 Pandemic	Price drops	39	11.6
	Influenced by others	22	6.5
	Quarantine isolation facilities	14	4.2
	Outing to relax and enjoy	148	43.9
	Outing to get rid of others	73	21.7
	Others	41	12.2

Categories	Description	No of respondents	Percentage
Purpose of travel	Family	193	57.3
	Official group	21	6.2
	Friends group	82	24.3
	Alone	41	12.2
How far gone, to stay from your home	Nearby	29	8.6
	Not so far	92	27.3
	Far away	159	47.2
	Never considered about the distance	57	16.9
How much time you spent in the Hotel Stay	1 day	1	0.3
	1-3 days	265	78.6
	4 days - 1 week	55	16.3
	1 week- 1 month	15	4.5
	More than a month	1	0.3
What have you done during Hotel Stay	Work from home	20	5.9
	Went for outing	199	59.1
	Just stay in room to relax	52	15.4
	Went for official work	66	19.6
How you felt during Hotel Stay in the COVID-19	Fear	32	9.5
	Relaxed	189	56.1
	Fear free	29	8.6
	Enjoyed	87	25.8
How you managed the meal during Hotel Stay	In-room dinning	139	41.2
	Inside restaurant	89	26.4
	ordered from outside	21	6.2
	Went outside the hotel for a meal	88	26.1

4. Data Analysis and Results

The data shown in table 3 shows the descriptive statistics (mean and SD) of all the construct of contactless services and associated measurement variables calculated from SPSS software. It is observed that Cultural components scored the highest mean of 3.5499 with SD=1.09112, this was followed by Socio-economic Issues (m=3.4792, SD=1.14967), Brand Image (m=3.4471, SD= 0.98814), Reception Service (m=3.3880, SD=1.01835), Social Practices (m=3.1313, SD=1.14565), Customer Knowledge (m= 3.3771, SD=1.11499) and Food & Beverages Service (m=3.3603, SD=1.06674) see table 3.

Table 3: Antecedent Factors of Contactless Service Practices Followed by Hotels During COVID -19 Crisis: A Descriptive Statistics (N=337)

	Mean	Std. Deviation
Reception Service	3.3880	1.01835
Mobile Check-in and Check-out.	3.205	1.1096
Cashless transaction facilities are provided in hotels.	3.343	1.2122
Digital signature facilities are given to the guest to promote contactless services.	3.451	1.1501
Welcoming and Luggage Handling are done keeping hygiene conditions in mind.	3.552	1.0865
Brand Image	3.4471	.98814
All the employees in the Hotel employees are neatly dressed.	3.576	1.1006
Employees used the PPE kits & masks.	3.599	1.1230
Housekeeping Services are clean and well maintained.	3.279	1.3654
I feel that Hotel employees are clean and hygiene conscious.	3.380	1.2165
I believe that hotel personnel is in good health.	3.401	1.2099
Social Practices	3.1313	1.14565
The staff of the hotel checks the guest's body temperature before entering the hotel.	3.495	1.2028
Masks are necessary for all guests.	3.013	1.3506
Less human touch and more technology.	2.976	1.4176
Guests are advised to keep a distance equal to the distance barrier between the guests.	3.040	1.3501
Socio-economic Issues	3.4792	1.14967
It is observed that Hand sanitizer is supplied at the hotel's reception desk.	3.498	1.3535
There is an appropriate clean sink for hand washing.	3.764	1.1471
The hotel provides the mask to its customer If guests do not bring/damage their own masks.	3.175	1.4224
Customer Knowledge	3.3771	1.11499
Employees facilitate a COVID-19 risk self-assessment form for guests who have traveled within the prior 14 days (rapid test or swab test).	3.519	1.3282
If guests experience health issues such as a fever, cough, runny nose, sore throat, or shortness of breath, they are asked to give information to hotel workers.	2.987	1.3852

Guests are asked to keep the hotel's public restrooms clean in order to keep them sanitary after usage.	3.626	1.1203
Food and Beverages Service	3.3603	1.06674
In-Room Dining services are promoted by hotels.	3.401	1.2403
Digital ordering of food service is provided to promote contactless service.	3.323	1.3343
Disposable Cutlery and crockery are more in use to maintain contactless facilities.	3.438	1.1699
Availability of Packaged/covered meals.	3.2795	1.35293
Cultural	3.5499	1.09112
Proper social distancing are maintained by Guests in public facilities.	3.354	1.3176
Normal protocols are maintained when entering the lift and other public places of people concerned.	3.690	1.2674
COVID guidelines of seating arrangement are well maintained by the guest.	3.606	1.2424

Table 4 displays the descriptive statistics for every measurement variable linked to hotel guests' satisfaction with contactless services. Variables such as "The food is well covered" and "All utensils and equipment in each area, including the wiping cloth, are clean" are found to have the highest mean scores (3.5993) and SDs (1.20433). "Pests (cockroaches, flies, or rats) are not seen" (m=3.562, SD=1.0086), and "Pests" (m=3.525, SD=1.0463). "Food handlers do not smoke while serving food" (m=3.478, SD=1.0999), "Food handlers to appear in full attires (apron, head cover, gloves, and covered shoes)" (m=3.441, SD=1.0986), and "Food handlers do not sneeze or cough while preparing food" (m=3.377, SD=1.0777). The entire store, including the floor, wall, and ceilings, are clean and odorless. Table 4 shows the consumer satisfaction with contactless service practices.

Table 4: Consumer Satisfaction with Contactless service practices (N=337)

	Mean	Std. Deviation
Customer Satisfaction	3.4969	0.88998
The floor, walls, and ceilings of the entire store are spotless and smell-free.	3.495	0.9799
Every piece of equipment and utensils in every area, including the wiping cloth, is clean.	3.562	1.0086
Food handlers must show up in full uniform, including covered shoes, an apron, gloves, and a head covering.	3.441	1.0986

When handling food, food handlers don't cough or sneeze.	3.377	1.0777
There are no pests (rats, flies, or cockroaches) visible.	3.525	1.0463
When delivering food, food handlers abstain from smoking.	3.478	1.0999
The food is well covered.	3.5993	1.20433

Different measurement variables like, "I feel safe and secure and wanted to stay more than planned, I wanted to visit again and again in this hotel, I would definitely recommend this hotel to my friends and other know fellows, I am willing to spend more in this hotel". Better Reputation of the hotel help in attracting more number of customers, Average Occupancy Rate has increased by maintaining hygiene factors of the hotels, This hotel is able to achieve Market Penetration by maintaining health and hygiene factors were developed and descriptive statistics calculated using SPSS software and found that variable like" I feel safe and secure and wanted to stay more than planned" has scored the highest mean of 3.5387 with SD=.91127, "I would definitely recommend this hotel to my friends and other know fellows" came after itwith mean =3.5354 and SD=.98961, overall this construct has scored a mean of 3.36 and SD=.792 (See table 5).

Table 5: Contactless Service and Perceived outcome:
A descriptive Statistics (N=337)

	Mean	Std. Deviation
Performance outcome	3.3660	.79214
I feel safe and secure and wanted to stay more than planned.	3.5387	.91127
I wanted to visit this again and again in this hotel.	3.4040	.99918
I would definitely recommend this hotel to my friends and other know fellows.	3.5354	.98961
I am willing to spend more time in this hotel.	3.4714	.99323
Better Reputation of the hotel help in attracting a greater number of customers.	3.4882	1.07523
The average Occupancy Rate has increased by maintaining hygiene factors of the hotels.	2.3737	.83325
This hotel is able to achieve Market Penetration by maintaining health and hygiene factors.	3.7508	1.02924

4.1 Measurement Model Evaluation

In PLS-SEM route modelling, the estimate model, sometimes referred to as the outer model, is in charge of latent variable estimation (Hair et.

al., 2014). This model's latent constructs are composed of a number of reflecting experiences. Figure 2 demonstrates that contactless service procedures used by hotels have a significant influence on their guests' level of pleasure. On the other side, contactless service methods have a substantial impact on worker performance. However, consumer satisfaction has less of an impact on performance. Furthermore, contactless service practices and consumer satisfaction account for 97.3 percent of the variability in the performance construct. For the customer satisfaction construct, however, contactless service practices explain 94.4 percent of the variances. Figure 2 depicted the antecedent factors of employees' agility, motivation, and their impact on their performance were considered. The fit of the model was assessed utilizing AVE tests, convergent validity, composite reliability, and Cronbach's alpha (Hair et al., 2017). Cronbach's dependability evaluations for all classifications were a lot higher than the adequate least of 0.6 and moved toward the best edge of 0.7 (See Table 6).

Figure 2: Measurement Model Statistics
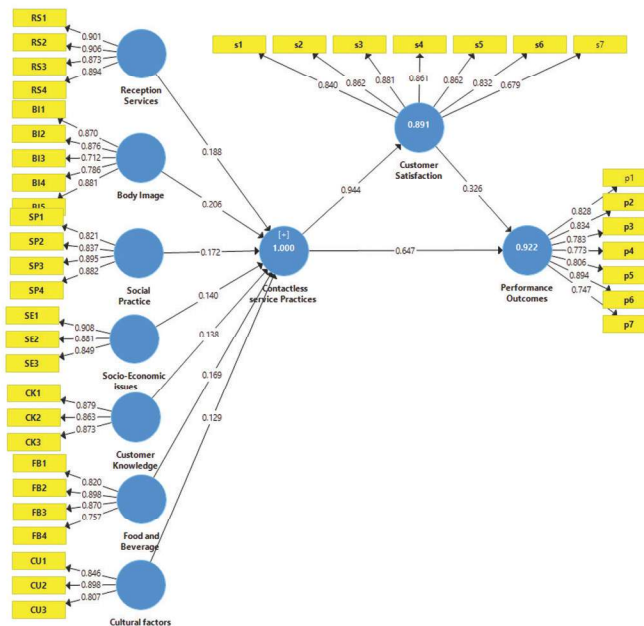
For every construct, there were components with loading factors higher than 0.5, as shown in Figure 2, hence no factor was eliminated from the model. As indicated in Table 6, every development has a CR greater than 0.70, and the AVE values start at 0.564(Contactless services Practices) to

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0.798 (Reception Services). Fornel and LarckerCriterion (1981) were used to evaluate discriminant validity by comparing the square root of each AVE in the inclining with the relationship coefficients (off-diagonal) for each construct in the pertinent rows and columns. There is no conflict in table 6, and generally speaking, discriminant validity might be acknowledged for this model, which upholds discriminant validity between the components (See Table 6).

Table 6: Construct Reliability and Validity Discriminant Validity

	Reliability			Discriminants validity:Fornell-Larcker Criterion									
	Cronb-ach's Alpha	Composite Reliability	Average Variance Extracted (AVE)	Contact-less services Practices	Body Image	Cultural factors	Customer Knowledge	Custo-mer Satis-faction	Food and Beverage	Perfor-mance Out-comes	Rece-ption Services	Social Prac-tice	Socio-Econo-mic issues
Contactless services Practices	0.969	0.971	0.564	0.751									
Body Image	0.883	0.915	0.685	0.899	0.828								
Cultural factors	0.809	0.887	0.724	0.859	0.702	0.851							
Customer Knowledge	0.842	0.904	0.759	0.870	0.710	0.751	0.871						
Customer Satisfaction	0.925	0.941	0.695	0.944	0.825	0.819	0.845	0.833					
Food and Beverage	0.858	0.904	0.702	0.874	0.765	0.857	0.772	0.830	0.838				
Performance Outcomes	0.912	0.930	0.657	0.954	0.830	0.852	0.859	0.936	0.863	0.810			
Reception Services	0.916	0.941	0.798	0.879	0.758	0.674	0.701	0.813	0.627	0.803	0.894		
Social Practice	0.882	0.919	0.738	0.876	0.805	0.646	0.667	0.812	0.655	0.807	0.823	0.859	
Socio-Economic issues	0.854	0.911	0.774	0.861	0.678	0.707	0.799	0.853	0.717	0.851	0.741	0.697	0.880

4.2. Structural Model and Hypotheses Testing

The model fitness rules of "PLS-SEM" and "CB-SEM" differ from one another. A structural model's healthiness was assessed using VIF, R^2, and normalized way coefficients using the PLS-SEM approach (Hair et al., 2019). To preclude factor multicollinearity, VIFs ought to be under 5.0, R2 ought to be inside adequate cutoff points, and normalized way coefficients ought to be genuinely significant (Johnston et al., 2018). The path results of variables are shown in Table 7. Collinearity happens when at least two indicator constructs are firmly associated; inferring that one of the constructs might be dependably anticipated straightly by another indicator variable. The worth of VIF (Variance Inflation Factor) decides collinearity, with VIF being considered liberated from collinearity issues. All VIFs were more than 1.0, with the most noteworthy VIF of 4.414 being inside the OK scope of 5.0 (See Table 8). It proved that multicollinearity was not a concern. The remaining structural model parts, according to R^2 estimates, accounted for 89.1 percent of employee satisfaction and 92.2 percent of perceived results in various forms. All of the normalized path coefficients were genuinely significant

at the = 0.01 level. All things considered; these standards validated the structural model's good fit with the data.

In order to describe the expected relationships between the constructs, the PLS-SEM technique generates model connections, or path coefficients, between the constructions. The t-values, p-values, and path coefficients for each hypothesis are displayed in Table 8. Hypothesis no.1 assumed that contactless service practices have a positive influence on performance outcomes in hotels.

Table 7: Path results

Path	Standardized path coefficient	t-value	p-value
Reception Services -> Contactless service Practices	0.188	34.511	0.000
Social Practice -> Contactless service Practices	0.172	35.476	0.000
Socio-Economic issues -> Contactless service Practices	0.140	35.454	0.000
Food and Beverage -> Contactless service Practices	0.169	39.410	0.000
Customer Knowledge -> Contactless service Practices	0.138	33.213	0.000
Cultural factors ->Contactless service Practices	0.129	36.144	0.000
Body Image -> Contactless service Practices	0.206	42.972	0.000

It is significant and hence accepting H1. The second hypothesis postulates that contactless service practices at the hotel have a favourable impact on raising client satisfaction levels. The path coefficient between Contactless service Practices -> Customer Satisfaction is 0.944, indicating a positive relationship between them. Path coefficients are standardized values greater than zero, and the strength of the relationships is shown by the t-value or p-value thus, and supporting research hypothesis 2 (mentioned in Figure 2 and Table8). The third hypothesis postulates that consumer satisfaction with contactless service has a significant impact on the performance outcome of the hotels. Test results show that the performance outcome's Standardized route coefficient from customer satisfaction (β=0.326, t=3.997, p=0.000<0.05) is significant and hence supporting research hypothesis no 3:

Table 8: Path Coefficients Mean, STDEV, T-Values, VIF P-Values

	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (|O/STDEV|)	P Values	VIF
Contactless service Practices -> Customer Satisfaction	0.944	0.944	0.015	64.519	0.000	1.000
Contactless service Practices -> Performance Outcomes	0.647	0.647	0.079	8.198	0.000	4.196
Body Image -> Contactless service Practices	0.206	0.205	0.005	42.972	0.000	4.204

	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (|O/ STDEV|)	P Values	VIF
Cultural factors -> Contactless service Practices	0.129	0.129	0.004	36.144	**0.000**	4.374
Customer Knowledge -> Contactless service Practices	0.138	0.139	0.004	33.213	**0.000**	3.812
Customer Satisfaction -> Performance Outcomes	0.326	0.325	0.081	3.997	**0.000**	**1.000**
Food and Beverage -> Contactless service Practices	0.169	0.169	0.004	39.410	**0.000**	**5.362**
Reception Services -> Contactless service Practices	0.188	0.187	0.005	34.511	**0.000**	4.174
Social Practice -> Contactless service Practices	0.172	0.172	0.005	35.476	**0.000**	4.135
Socio-Economic issues -> Contactless service Practices	0.140	0.140	0.004	35.454	**0.000**	3.572

4.3. Mediation Analysis

If an "antecedent variable causes a mediating variable," which in turn "causes a dependent variable," the "causal sequence" that result is measured using the statistical tool known as mediation analysis. In randomized therapeutic programs, it might be most effective in settling cause-and-effect arguments. If a "mediator variable intervenes between two other related conceptions," mediation has occurred. Based on the idea that customer satisfaction acts as a mediator in the connection between contactless service methods and performance outcomes, the mediating effect of customer satisfaction is explored."Smart-PLS bootstrapping" was employed to evaluate the effects, both direct and indirect. The first step was to calculate the direct impact of contactless service techniques on performance outcomes. Table 9 shows that the performance outcome (=.0.647 t=8.198, p=0.000) is significant. The mediating variable's (customer satisfaction) indirect impact on the connection between contactless service practices is examined in the second stem. The performance outcome was computed. Contactless service practices of hotels have a significant impact on consumer satisfaction (=0.892, t= 73.215, p=0.000), mentioned in Table 8.

Employee motivation has a similar effect on employee performance (=0.944, t=64.519, p=0.000). The hypothesis of the mediating effect was next investigated using the testing protocols suggested by Preacher and Hayes (2008). According to them, the mediating effect needs a "significant indirect impact and a confidence interval" that doesn't contain zero. We used Smart-PLS bootstrapping to calculate the specific indirect impacts. Table 8 shows that there is a substantial indirect influence of employee motivation in the

relationship between Contactless Service Practices -> Customer Satisfaction -> Performance Outcomes (t=3.972, p=0.000). It is found that combining consumer satisfaction that reduces the variation from 0.0.954 to 0.647 from the direct influence of contactless service methods and performance outcomes an indirect effect of consumer contentment. As a result, consumer satisfaction mediates the association between contactless service practices and hotel performance outcomes during COVID, hence confirming hypothesis 4.

Table 9: Mediation Analysis: Path coefficient and Confidence Interval

	Original Sample (O)	T Statistics (|O/STDEV|)	P Values	Bias	2.5%	97.5%	Outcome
Contactless service Practices -> Performance Outcomes	0.647	8.198	**0.000**	0.001	0.274	0.520	*Supported*
Contactless service Practices -> Customer Satisfaction	0.944	64.519	**0.000**	0.000	0.909	0.968	*Supported*
Customer Satisfaction -> Performance Outcomes	0.602	9.823	**0.000**	0.004	0.463	0.714	*Supported*
Contactless service Practices -> Customer Satisfaction -> Performance Outcomes	0.307	3.972	**0.000**	0.000	0.164	0.464	*Supported*

5. Discussion and Findings

Because the epidemic hastened the deployment of Contactless Technology for hospitality service interactions, so there's a need to understand customer acceptance of technology and its adoption. This paper investigated contactless service practices and their impact on customersatisfaction and performance outcome in terms of revenue and stay. The study also investigates whether employee satisfaction with contactless services mediates the relationship between contactless service practices and perceived outcomes. The study indicated seven contactless practices namely: - Reception Services; Body Image; Food and Beverage; Customer Knowledge; Cultural factors; Socio-Economic issues; and Social Practices that stronglyaffects customer satisfaction and positive outcomes in terms of stay, feeling of safety and security, repeat visit and positivewords of mouth for maintaining hygiene factors of the hotels. The study is also in conformance with previous studies that support the finding that Contactless hospitality services are more likely to be accepted especially by customers hoping for new technology. Furthermore, trust is a significant predictor to know the behavioural intention of customers (Kim, 2016; Lee, 2016; Assaker, 2020; tom Dieck et

al., 2017; Park, 2020). Through proactive and adaptive knowledge, skills, behaviors, and attitudes of employees, we comprehend the compulsion of contactless service in the hospitality business in an age of pandemic, flexible, and insecure work environments and its ability to deliver contactless service to its customer will benefits to the organization.

Figure 3: Model showing the mediation path.
Contactless Practices → Customer Satisfaction → Performance Outcomes

According to study findings, the association between contactless service methods and perceived performance outcome is mediated by customer satisfaction. The findings indicate that contactless service practices directly enhance performance outcomes and indirectly improve them by significantly boosting customer satisfaction. This means that when contactless service practices are used successfully, customers are happier, which in turn received the positive outcomes in terms of more business, more lengthy stay, repeat visit, etc. These results show how important it is to put customer satisfaction first as a key factor in getting the most out of contactless services in healthcare settings.A similar result was indicated in the previous study findings of Oh et al., (2013); Blut et al., (2016); Sun et al., (2020) indicating that technology acceptance and introduction of self-service technologies (SSTs) at an increasing pace will be helpful in delivering greater customer satisfaction and more profit to the organization.

5.1. Theoretical implications

Testing and connecting for new innovationscreate recreational encounters and increment customers' propensity for opting the innovative technology. Contactless administrations have arisen to penetrate the different regions of the friendliness business, including lodging, eating, air terminal, occasions, amusement parks, travel, and the travel industry. This study adds to the comprehension of the hidden instrument of acknowledgment of contactless technological innovation from the perspective of clients. It additionally takes special care of the "new normal" directly following the COVID pandemic.

5.2. Managerial implications

Theory aside, this study does have practical implications for hospitality firms' managers. It gives new knowledge into how "innovative service design" can improve customer satisfaction, passionate connection, and

mental assessment of accommodation brands. Managers should identify crucial touch-points across the customer experience and characterize the health hazard and torment spots inside the client venture, permitting them to focus on touch-points and find the best innovation. The help plan of contactless innovation requires a careful and thoughtful comprehension of clients (Stickdorn et al., 2018). Contactless assistance encompasses not just the integration of innovative solutions, but also the comprehensive re-evaluation of products, service methodologies, management practices, and the overall customer experience through a user-centric approach. As a result, during the whole service cycle, the service provider may offer a completely useful, seamless, and consistent experience.

6. Conclusions, limitations, and future scope

This study's findings clearly indicate that the spread of the disease has altered consumer behavior and expectations regarding the hotel industry during the pandemic, influenced by government-issued preventative measures and standard operating procedures. The studies also revealed that the epidemic altered consumer expectations and behaviour. Due to the huge gamble of ailment spread, customers' decisions for booking stays were affected, and most of the customers decided to reserve a spot in star-appraised inns that stuck to Contactless Practices and kept an elevated degree of cleanliness and sterilization. As per the findings of the goal on customer satisfaction level, while profiting different hotel administrations during a pandemic, most of the purchasers are happy with the manner in which they gave the touchless or touch-free services. The study suggests updating hotel amenities and services in light of the pandemic's new normal by taking consumer expectations into account. In response to the COVID-19 pandemic, hotels have enhanced contactless procedures, the report found. The data show that contactless practices change consumer behavior. Customers are happier and more likely to buy again if they think contactless solutions are less hazardous and more efficient. Customers clearly favor safety and hygienic precautions in hotel services during the pandemic, according to the report. A subset of tech-savvy consumers who are especially open to contactless practices is identified by the research. These customers value ease and effectiveness above all else when booking a hotel stay, and they demonstrate a greater tendency to utilize the technological services offered by hotels. The use of contactless practices in hotel services is anticipated to have long-term consequences, while being initially motivated by the COVID-19 pandemic. Customers may still choose contactless solutions after the pandemic since they are accustomed to their ease and security. In the post-pandemic environment, hotels that successfully adopt contactless procedures stand to benefit. These hotels may set themselves apart and get a bigger market share by satisfying customer expectations for ease and safety.

The need of continuous innovation in the hotel industry, particularly in light of shifting consumer preferences and new technological developments, is highlighted in the research. Hotels need to be flexible and nimble in order to satisfy their visitors' evolving needs. Lastly, the results emphasize how important it is to have legislative and regulatory frameworks that encourage the hospitality industry to adopt contactless practices. Standardizing contactless technologies and ensuring consistency among hotels can be facilitated by government initiatives and industry standards. This research offered a thorough and profound insight into the psychological experiences of people with COVID-19 using a phenomenological approach.

This study gave critical information for future psychiatric interventions. Future research can concentrate on the influence of the virus in other amiable domains like aviation, eateries, retail, and amiability instructional organizations, among others because the current study concentrated on consumer behaviour toward contactless hotel services. There would be a lot more to implement in terms of hospitality and tourism in the post-COVID environment, such as E-tourism, and the use of artificial intelligence/robotics in hotels to avoid human touch. Now, takeaways and home delivery have evolved. Technologies can be implemented in the hospitality and tourist sectors to secure the safety of guests, and empirical research can also be conducted to learn about the owners' and managers' perspectives.

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