
UTILIZATION OF DATA-BASED RESERVATION SYSTEM AND PERFORMANCE OF HOTELS IN RIVERS STATE

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Abstract

This study investigates how the utilization of data-based reservation systems (DBRS) influences the operational and customer-centric performance of hotels in Rivers State, Nigeria, with a particular focus on the moderating role of customer trust. Guided by the Technology Acceptance Model (TAM), the research employs a cross-sectional survey design, sampling 330 management staff across 25 hotels. Data were collected via a structured questionnaire and analyzed using Pearson correlation techniques. Empirical results indicate that real-time availability (RTAS), customer relationship management (CRM) integration, and multichannel system integration each exhibit positive, significant relationships with both customer satisfaction and willingness to recommend (WTR). Moreover, customer trust significantly strengthens the link between DBRS utilization and overall hotel performance. The findings underscore the importance of perceived usefulness and ease of use in driving digital adoption among staff and guests. Practical recommendations include investing in cloud based booking platforms, embedding CRM for personalized communications, harmonizing data across all channels, and enhancing transparency around data security to foster trust. The study contributes theoretically by extending TAM in a hospitality context and offers hoteliers in emerging economies evidence-based strategies for leveraging digital reservation technologies to boost both financial and non-financial performance metrics.

Keywords: Database reservation system. Hotel performance. Customer satisfaction. Willingness to recommend. Technology Acceptance Model. Customer trust; Rivers State.

Introduction

The hospitality industry faces mounting pressures from globalization, technological advancements, and rising customer expectations, leading hotels to invest in innovative services and flawless operational performance. Despite these efforts, many hotels struggle with sub-optimal performance, as evidenced by declining customer satisfaction and reduced willingness to recommend services. Inefficiencies in modern reservation systems result in errors such as delayed confirmations, overbookings, and a lack of personalized service, which ultimately erode customer trust and satisfaction (Chathoth & Olsen, 2021). Moreover,

fragmented communication due to poor system integration hampers the hotels' ability to access critical customer data needed to tailor experiences that encourage positive word-of-mouth (Kandampully et al., 2018).

These operational challenges carry significant risks, including reduced immediate revenue and long-term damage to brand equity and market positioning, as hotels fail to keep pace with competitors leveraging advanced reservation technologies. The problem is widespread across establishments of all sizes, especially in emerging economies where technical expertise, infrastructure, or financial resources are limited, perpetuating inefficiencies and customer dissatisfaction (Law et al., 2018) which ultimately affects their performance.

Performance is referred to the ability of a hotel to meet its strategic and operational goals and it is often evaluated using both financial and non-financial criteria (Lin & Wang, 2016). Occupancy rates, guest happiness, operational efficiency, and brand reputation, high-quality services, consistent patronage, and loyalty are all performance criteria that can help to determine a hotel's overall success (Ladhari, 2009). These performance metrics are critical for creating long-term connections, thereby giving a hotel a competitive advantage in the hospitality business (Chen & Chen, 2019) and these can be driven by adoption of technology. Trends in contemporary studies reveal a growing recognition of the role of tech reservation systems in improving hotel performance through increased efficiency, customer satisfaction, and streamlined operations (Jalloh & Rafiq, 2021). According to Buhalis and Law (2008), data-based reservations have become crucial for hotel management and customer service optimization, allowing for real-time bookings and enhanced service delivery and improving customers' trust.

Customers' trust, refers to the confidence that customer place in an organization's ability to protect their personal data, deliver on service promises, and maintain transparency during digital interactions (Anderson et al, 2012). Trust is a critical factor in building a loyal customer base, especially in an era where sensitive data, such as payment details and booking preferences, are frequently handled through digital systems. Trust in this context can be broken down into several key areas, including trust in data security, reliability of service delivery, and the credibility of online reviews (Hassan et al., 2021).

Previous studies have consistently highlighted the relationship between data-based utilization and improved hotel performance. Law et al. (2018) found that hotels adopting data-based reservation systems utilization saw improvements in customer retention and service delivery times, both of which contributed to overall performance gains. Similarly, Buhalis and Leung (2018) emphasized that digital technologies enhance personalized customer experiences, which have a direct impact on the likelihood of guests recommending the hotel and returning for future stays. These studies suggest that digital utilization plays a critical role in modern hotel management.

However, gaps persist in understanding the impact of customer trust in moderating the relationship between DBRS and hotel performance, particularly in developing regions like Rivers State. Therefore, this study examined the relationship between the utilization of database reservation systems and hotel performance.

1) Literature Review

Theoretical Review

Technology Acceptance Model: The Technology Acceptance Model (TAM) was first proposed by Fred Davis in 1986 as part of his doctoral work to understand the factors influencing user acceptance of new technologies. Davis developed TAM based on the Theory of Reasoned Action (TRA) by Fishbein and Ajzen (1975), aiming to specifically address the challenge of predicting the adoption of information systems. TAM posits that two main factors determine technology acceptance: perceived usefulness (PU) and perceived ease of use (PEOU). Perceived usefulness is the degree to which an individual believes that using a particular technology will enhance their job performance, while perceived ease of use refers to the extent to which the user believes the system will be free from effort. These two factors shape users' attitudes toward the technology, influencing their behavioral intention to use it, which ultimately determines their actual system usage.

In studies related to digital reservation systems and hotel performance, TAM can help explain the variations in system adoption among different hotels. For instance, hotels with well-established digital reservation systems may demonstrate higher performance levels, as their staff and customers are more likely to perceive the system as useful and easy to use, leading to more efficient operations and higher customer satisfaction.

Conceptual Clarification

Digital Reservation Systems

Digital reservation systems have been defined and explained by several authors, each emphasizing different aspects of their functionality and impact. According to Alonso-Almeida (2018), digital reservation systems are software platforms that enable businesses to automate the booking process and enhance customer management through online interfaces. This automation optimizes operational efficiency by reducing manual processes. Similarly, Buhalis and Law (2008) describe these systems as technological applications that seamlessly integrate real-time booking processes across multiple channels, thus improving customer accessibility and operational performance.

Tussyadiah and Zach (2012) highlight the innovative nature of digital reservation systems, which facilitate the customer journey by offering convenience in service reservations. They argue that such systems play a crucial role in enhancing customer satisfaction and loyalty through ease of access and smooth transaction processes.

Digital reservation utilization has seen a rapid rise in global industries, especially in hospitality and travel. The widespread use of internet-based booking systems in the hospitality industry reflects the growing demand for more streamlined services.

Real-Time Availability and Booking System

In defining real-time availability and booking systems, scholars have approached the concept from various angles. Kimes (2008) describes a real-time booking system as an integrated digital platform that enables users to immediately view the availability of services or products and make instant reservations. This definition highlights the instantaneous aspect of such systems, distinguishing them from traditional reservation methods by focusing on the ability

to provide immediate feedback. Choi, Heung, and Park (2015) offer a broader perspective, portraying these systems as dynamic technologies that ensure seamless communication between supply and demand. They emphasize the importance of continuously updating availability information to allow customers to make decisions based on real-time data.

Real-time availability and booking systems have become essential in sectors like hospitality, transportation, and healthcare, where seamless reservation processes are crucial for consumers and service providers. These systems have evolved from manual to highly automated, cloud-based solutions that ensure efficiency and accuracy in managing resources. Key components of these systems include cloud computing, Application Programming Interfaces (APIs), and real-time data synchronization, which ensure that availability information is continuously updated across platforms. In the hospitality industry, for instance, API connections prevent overbooking by keeping room availability current (Choi, Heung, & Park, 2015).

Customer Relationship Management System

Customer Relationship Management (customer relationship management) systems play a pivotal role in enhancing business processes, especially within the hospitality and travel industries, where customer satisfaction and loyalty are paramount. customer relationship management is broadly defined as the strategic process of managing an organization's interactions with current and prospective customers. According to Payne and Frow (2005), customer relationship management integrates marketing, sales, and service functions to improve customer engagement and organizational profitability. Kotler et al. (2017) describe customer relationship management as an approach that leverages technology to collect and analyze customer data to build long-term relationships.

Through the integration of customer relationship management and reservation systems, businesses can track customer preferences, booking history, and feedback. This data is invaluable for tailoring future services to individual customers, improving the overall user experience. For example, a hotel may use customer relationship management data to send personalized offers to customers based on previous stays or preferences, increasing the likelihood of repeat bookings (Sigala, 2018).

Multi-channel Intergration

Multichannel integration refers to the process of seamlessly coordinating multiple communication and service channels such as websites, mobile apps, social media, and third-party platforms into a unified system (Pantano and Di Pietro). The goal is to provide customers with a consistent and cohesive experience, regardless of the channel they choose to engage with. In the context of digital reservation systems, multichannel integration enables users to book services across various platforms, while ensuring synchronization of data and availability.

According to Pantano and Di Pietro (2012), multichannel integration is critical for creating a seamless customer journey in industries such as hospitality and tourism, where user preferences and booking platforms are increasingly fragmented. Slevitch (2018) defines it as the process of synchronizing digital and traditional channels to ensure that customers

encounter no disruption or inconsistency during the booking process. With the increasing complexity of consumer behaviors and the proliferation of digital channels, a single-channel focus is no longer sufficient.

Hotel Performance

Hotel performance is a multidimensional concept encompassing a variety of metrics that assess the overall success and sustainability of a hotel's operations. Traditionally, performance was measured primarily through financial indicators, but over time, the concept has evolved to include non-financial metrics like customer satisfaction, service quality, willingness to recommend, customer loyalty, customer retention, operational efficiency and others. According to Atkinson and Brown (2001), hotel performance is the assessment of a hotel's effectiveness in meeting its objectives, typically evaluated through financial indicators such as revenue per available room (RevPAR), occupancy rates, and profit margins. This narrow view, however, has expanded over time.

Harris and Mongiello (2006) emphasize that performance in the hotel industry should include both quantitative and qualitative measures. As the industry continues to adapt to changing market conditions and customer expectations, it is clear that both financial and non-financial indicators will play an integral role in assessing hotel performance.

Customer Satisfaction

Customer satisfaction is a cornerstone concept in both hospitality and general business sectors, as it directly influences customer loyalty, retention, and overall business performance. According to Kotler and Keller (2016) argued that customer satisfaction refers to the degree to which a product or service's perceived performance matches a buyer's expectations. Oliver (2010) emphasized that customer satisfaction is a psychological state that results from an emotional or cognitive comparison of expectations with actual service experiences. This comparison may lead to positive satisfaction, neutrality, or dissatisfaction. Zeithaml, Bitner, and Gremler (2018) put it as an effective response triggered by a specific service encounter or transaction, which shapes future customer behaviors and perceptions.

As the marketplace becomes more competitive, businesses have shifted their focus from merely meeting customer expectations to exceeding them. Parasuraman, Zeithaml, and Berry's (1988) SERVQUAL model has been credited as a foundational framework for understanding service quality and its impact on customer satisfaction. This model highlights five key dimensions: tangibles, reliability, responsiveness, assurance, and empathy, which are crucial to evaluating service quality in the hospitality industry.

Willingness to Recommend

Willingness to recommend is a critical concept in customer loyalty and business performance, often regarded as an essential performance indicator. It refers to a customer's likelihood of endorsing a company's services or products to others, which serves as a key indicator of both brand loyalty and the quality of customer experiences. According to Reichheld (2003), willingness to recommend is defined as the likelihood that customers will recommend a service/product to others. Reichheld suggests that this can provide a powerful

indication of future growth, based on customer advocacy. Similarly, Grönroos (2007) views willingness to recommend as a reflection of customers' satisfaction with their interactions and experiences, particularly in service-oriented industries. This perspective aligns with the idea that positive word-of-mouth can be a significant driver of repeat business and customer retention (Zeithaml, Bitner, & Gremler, 2018).

In the broader business environment, willingness to recommend is not only linked to customer satisfaction but also considered a strategic asset. Parasuraman, Zeithaml, and Berry (1988) note that a customer's propensity to recommend is influenced by their perceptions of service quality, reliability, and responsiveness. This holistic understanding indicates that factors such as the customer service environment, service recovery, and personalization play pivotal roles in shaping WTR (Ladhari, 2009).

Customers' Trust

To achieve the loyalty of many ways that can be done by the company. One effective way to achieve loyalty is through trust. Where trust is customer awareness of the expectations of the brand's performance based on the experience and confidence embodied in the form of an attitude. By creating trust it will generate loyalty.

Customer trust to be one important component to move from transaction-based to pattern-based relationship (Murphy et al, 2007). It is also associated with the services provided are expressed through communication or promotion, and is supported by the whole of the products offered. Confidence is important for the company because a company can not establish the true relationship without trust. Therefore, customers require full confidence in the company.

On the other hand, customers also assess to what they receive and expect from a product. If it does not match the expectations of customers, the company will not only lose the trust of customers, but also the potential loss of potential customers. Satisfied customers are likely to continue to purchase, dissatisfied customers tend to stop the product in question and then will spread the news to others (Arnold and Reynolds, 2003). According to Kendra (2003), trust is the psychological part consists of state resigned to accept deficiencies based on positive expectations and intentions or behavior of others. According to Ba and Pavlou (2002) defines trust as an assessment of one's relationship with others who will conduct certain transactions in line with expectations in an environment full of uncertainty. Trust occurs when a person is confident in the reliability and integrity of the people you trust.

According Costabile, et al (2002), customer trust aka defined as the perception of the reliability of the customer's perspective based on experience or more in the sequences of transactions or interactions were characterized by the fulfillment of expectations of product performance and satisfaction.

Empirical Review

Real-Time Availability Systems and Customer Satisfaction

Anderson et al (2012) conducted a study on real-time inventory systems and customer satisfaction in retail supply chains with the aim to investigate the impact of real-time inventory management systems on customer satisfaction within the retail industry, with a

specific focus on stock availability and timely service delivery in the United States. The study which is a quantitative research design adopted a stratified random sampling method to collect data from 100 large retail chains across ten states. Structural Equation Modeling (SEM) was adopted as the data analysis method and the study found a positive relationship between the adoption of real-time inventory systems and customer satisfaction.

Chen and Wei (2016), studied the effect of real-time reservation systems on customer satisfaction in the hospitality industry in China adopting a mixed method research design explored how real-time reservation systems affect customer satisfaction, focusing on factors such as ease of use, perceived control, and booking accuracy. Convenience sampling was used to select 50 hotels in Beijing, and surveys were distributed to 500 guests and also, interviews were conducted with hotel managers. The data analysis involved regression analysis for the quantitative data, while the qualitative data were thematically analyzed. The findings revealed that real-time reservation systems significantly enhance customer satisfaction by improving the booking process, ensuring availability, and increasing perceived control over bookings. A remarkable 85% of respondents indicated they were more likely to recommend hotels with such systems.

Davies and Wilson (2018), in their research on airlines and real-time ticket availability in the UK employed a quantitative design with a sample of 1,000 airline customers from five major airlines selected through simple random sampling. The data were analyzed using logistic regression to determine the impact of real-time availability on customer booking behavior. The study revealed that customers who had access to real-time ticket availability reported 20% higher satisfaction with their overall booking experience compared to those using delayed systems. The study also found that real-time booking encouraged early bookings and reduced last-minute cancellations.

In line with these studies, a null hypothesis that could be tested using hotels in Rivers State is:

H₀₁: There is no significant relationship between the Real-Time Availability Systems and customer satisfaction in hotels in Rivers State.

Real-Time Availability Systems and Willingness to Recommend

Zeithaml et al (2013) explored how technology adoption and service innovation influence customer loyalty and willingness to recommend in the US. The purpose of the study was to understand the role of real-time availability systems in improving service delivery in retail. The study adopted a quantitative approach with a sample size of 350 customers from different retail sectors. Data were collected using a structured questionnaire, and regression analysis was employed to analyze the relationship between technology adoption, service innovation, and customer willingness to recommend. The findings indicated a significant positive relationship between RTAS and customer satisfaction, which in turn enhanced customer loyalty and their willingness to recommend the service to others.

Grewal et al (2009) examined innovation, real-time systems, and customer loyalty in the hospitality industry across Europe. The research was conducted in five-star hotels across Europe using a mixed-method design. The study combined interviews with 45 hotel managers and surveys distributed to 200 customers. Data from interviews were analyzed

thematically, while the customer survey was analyzed using structural equation modeling (SEM). The findings revealed that service innovation, driven by RTAS such as online booking systems, had a direct effect on customer satisfaction and an indirect effect on willingness to recommend through the mediating role of perceived service quality.

Odoom et al (2017) did a study on technology adoption and service innovation in the financial sector in Ghana. A sample of 400 customers across different banks in Accra was selected using a stratified sampling technique. The research utilized a quantitative approach, with the data analyzed through multivariate regression analysis. The results showed that customers who interacted with banks that had adopted real-time technologies such as mobile banking and online transaction systems expressed higher levels of satisfaction and were more willing to recommend the bank's services to others.

Based on the findings of different studies above, the null hypothesis could be stated as follows:

H₀₂: There is no significant relationship between the real-time availability systems and customers' willingness to recommend hotels.

Customer Relationship Management System and Customer Satisfaction

Eid (2007), investigated the impact of customer relationship management on customer satisfaction in the banking sector in Saudi-Arabia using a quantitative research design. A sample of 350 bank customers was selected using a stratified random sampling method, and data were collected via structured questionnaires. The study employed regression analysis to examine the relationship between customer relationship management and customer satisfaction. The findings indicated that the successful implementation of customer relationship management systems in banks had a significant positive effect on customer satisfaction, as these systems allowed banks to better understand customer needs, personalize services, and resolve issues more effectively.

Sin et al (2005) sought to establish a framework for measuring the effectiveness of customer relationship management systems in enhancing customer satisfaction of retail businesses in Hong Kong. The study used a mixed-method approach. A combination of qualitative interviews with 30 retail managers and a survey of 500 retail customers provided a comprehensive dataset. Factor analysis and structural equation modeling (SEM) were employed to test the relationships between customer relationship management dimensions (customer knowledge, interaction, and relationship quality) and customer satisfaction. The results showed that customer knowledge and personalized interaction, facilitated by customer relationship management systems, were critical determinants of customer satisfaction.

Payne and Frow (2006) study conducted in the UK sought to explore how customer relationship management systems influence customer satisfaction and retention in telecom companies. Using a qualitative case study design, the researchers conducted in-depth interviews with 25 senior managers in telecom companies, coupled with a customer survey of 600 respondents. Thematic analysis was used to analyze the interview data, while the survey responses were subjected to multiple regression analysis. The findings revealed that customer relationship management systems played a crucial role in enhancing customer

service by enabling telecom companies to provide personalized support and real-time solutions to customer complaints.

The fact that the studies above did not consider Rivers State is an academic concern to the present study. Hence, the following null hypothesis is stated as follows:

H₀₃: There is no significant relationship between the implementation of customer relationship management systems and customer satisfaction in hotels I Rivers State

Customer Relationship management Systems and Willingness to Recommend

Akroush et al (2011) explored the impact of customer relationship management systems on business performance and customer willingness to recommend in the retail sector of Jordan. Using a quantitative research design, the study surveyed 420 retail managers and customers. A stratified sampling method was employed, and data were analyzed using structural equation modeling (SEM). The findings demonstrated a strong positive relationship between customer relationship management implementation and customer satisfaction, which directly influenced the likelihood of customers recommending the business.

Odoom (2017) did a research on the antecedents of customer loyalty in the banking sector: "A mediating role of customer relationship management," examined how customer relationship management influences customer loyalty and the willingness to recommend in Ghana's banking industry. The research adopted a mixed-method design, combining qualitative interviews with bank managers and quantitative surveys with 400 customers across multiple banks. Data were analyzed using factor analysis and multiple regression. The study revealed that the successful implementation of customer relationship management strategies improved the relationship quality between banks and their customers, which in turn increased customers' willingness to recommend the bank to others.

Harrigan et al (2012) explored the relationship between customer relationship management adoption and willingness to recommend: "A case of the Irish SME Sector," focused on small and medium-sized enterprises (SMEs) in Ireland. The purpose was to determine how the adoption of customer relationship management systems impacts customer satisfaction and willingness to recommend these businesses. A total of 350 SME owners and customers participated in the study, which used a qualitative case study approach. Data were collected through in-depth interviews and surveys and analyzed using thematic analysis and regression techniques. The findings showed that SMEs that effectively used customer relationship management systems experienced greater customer satisfaction, which was linked to a higher likelihood of recommendation.

Having reviewed different studies on the application of the concerned constructs in different locality and industry, Rivers state was not considered. Hence, the null hypothesis is stated as follows:

H₀₄: There is no significant relationship between the implementation of customer relationship management systems and customer willingness to recommend hotels in Rivers State

Multichannel Intergration and Customer Satisfaction

Sousa and Voss (2012) assessed the impact of multichannel integration on service quality and customer satisfaction in the UK. Using a quantitative approach, data were collected from

500 customers who regularly engaged with multichannel retailers. A random sampling method was adopted, and the data were analyzed using structural equation modeling (SEM). The findings revealed that when customers experienced consistent and integrated interactions across different channels, their satisfaction increased significantly.

Lin and Wang (2016) examined mobile app integration and customer satisfaction in the banking industry: Evidence from Taiwan. The purpose was to assess how the use of mobile applications, alongside traditional and internet banking, influences customer satisfaction. The researchers employed a mixed-method approach, combining surveys with 300 bank customers and interviews with 20 banking staff members. The data were analyzed using regression analysis for the quantitative data and thematic analysis for the qualitative data. The findings showed that customers highly valued mobile banking apps for their convenience and efficiency, but the satisfaction levels were significantly higher when these apps were integrated with other banking channels, such as in-person services and online banking.

Xu et al (2013) focused on multichannel service integration in the airline industry in China. The study aimed to explore how airlines integrate their online platforms with offline customer service to enhance customer satisfaction. The research was conducted using a quantitative design, surveying 450 airline customers. A stratified random sampling method was used, and data were analyzed using confirmatory factor analysis (CFA). The findings revealed that customers who could access the same level of service quality through the airline's mobile app, website, and in-person services reported higher levels of satisfaction.

In the context of hotels in Rivers State, the null hypothesis is as:

H₀₅: There is no significant relationship between multichannel integration and customer satisfaction in hotels in Rivers State.

Multichannel Intergration and Willingness to Recommend

Kumar and Tan (2015) investigated the impact of multichannel integration on customer engagement and willingness to recommend in the retail sector. The study, conducted in Singapore, employed a quantitative research design using a cross-sectional survey of 400 customers of retail chains that utilized mobile apps, websites, and social media platforms for customer interactions. The researchers adopted a convenience sampling method, and the data were analyzed using structural equation modeling (SEM). The study revealed that seamless integration across multiple channels significantly enhanced customer engagement, which, in turn, led to a higher willingness to recommend the brand.

Müller and Friedrich (2017) examined the effects of digital touchpoints on customer satisfaction and referral behavior in the hospitality sector in Germany. This study utilized a mixed-method design, combining qualitative interviews with hotel managers and a quantitative survey distributed to 300 hotel guests who had used mobile apps, online booking platforms, and social media to engage with the hotels. Purposive sampling was used to select hotel managers for interviews, while convenience sampling was applied for guest surveys. The data were analyzed using thematic analysis for qualitative data and regression analysis for quantitative data. The study found that customers who experienced consistent and integrated interactions across digital touchpoints were more likely to recommend the hotels to other.

Chen et al (2019) conducted a study on multichannel integration and its influence on customer loyalty and willingness to recommend in the banking industry in Taiwan. This quantitative research employed a longitudinal design, tracking customer interactions across mobile banking apps, online banking services, and social media platforms over 12 months. A sample size of 500 customers was selected using stratified random sampling to ensure representation across various customer demographics. Data were analyzed using path analysis, and the study found that effective integration across these digital channels led to a stronger sense of trust and satisfaction, which positively affected customers' likelihood to recommend their bank.

In light of these studies, the following null hypothesis is proposed:

H₀₆: Multichannel integration does not significantly influence the willingness of hotel customers in Rivers State to recommend the hotels to others.

The Moderating Effect of Customers' Trust on the Relationship Between Digital Reservation System and Hotel Performance

Wang and Chang (2016) conducted a study on the moderating role of customer trust in the relationship between online booking systems and hotel revenue performance in Taiwan. The study employed a quantitative research design with a sample size of 400 hotel customers selected through convenience sampling. Structural equation modeling (SEM) was used for data analysis, focusing on the interaction between trust in digital platforms and hotel revenue outcomes. The findings revealed that customer trust significantly moderated the relationship between the adoption of online reservation systems and hotel performance. Hotels that had higher levels of trust from customers through secure and transparent booking systems experienced stronger positive effects on revenue.

Amin and Ahmad (2018) examined the impact of customer trust on satisfaction within the context of the banking sector in Malaysia. The purpose of the study was to evaluate whether trust in banking services influenced overall customer satisfaction with their financial institution. Using a quantitative research design, the researchers collected data from 450 respondents through a structured survey. The sampling method employed was convenience sampling, targeting bank customers who had recently interacted with online banking services. The researchers adopted multiple regression analysis to test the relationship between trust and satisfaction. The findings revealed a significant positive relationship between customer trust in the security and reliability of online banking systems and their overall satisfaction with the bank.

Lee and Choi (2020) conducted a study on the relationship between trust and satisfaction in the e-commerce sector in South Korea. The purpose of their research was to investigate how trust in online retailers influenced customer satisfaction with their shopping experience. The study employed a mixed-method approach, combining qualitative interviews with 15 e-commerce experts and a quantitative survey of 300 customers selected using stratified random sampling. For data analysis, structural equation modeling (SEM) was used to assess the hypothesized relationships. The study found that trust in the retailer's ability to deliver products on time, ensure product quality, and safeguard personal data was significantly linked to higher levels of customer satisfaction. Trust in the retailer was seen as a key

predictor of satisfaction, reinforcing the idea that trust plays a central role in e-commerce, where physical interactions are limited.

Having reviewed different studies and found that none focused on the Rivers State business environment, the following null hypothesis is stated:

H₀₇: Customer trust does not significantly moderate the relationship between digital reservation systems and hotel performance in Rivers State.

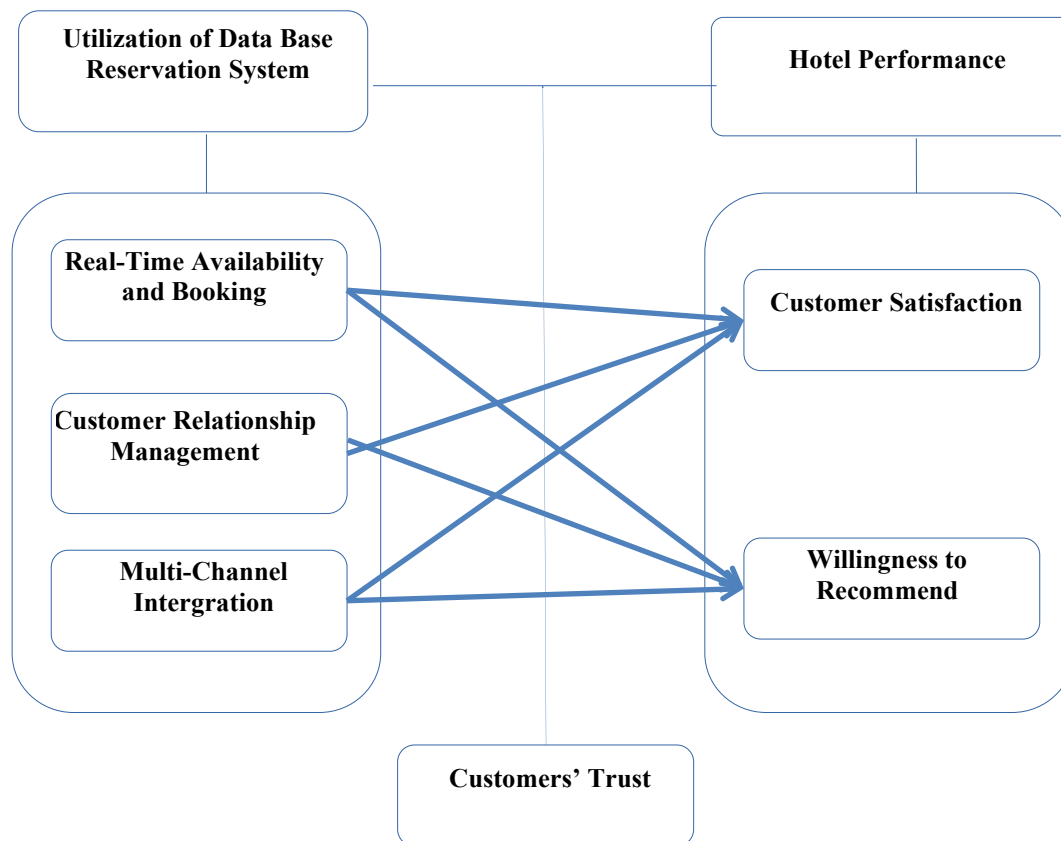


Figure 1: DRS-HP Model Showing the Possible Relationship Between Utilization of Data Base Reservation System and Hotel Performance

Source: conceptualized by the researcher.

2) Methodology

Research Design

This study employed a cross-sectional survey design grounded in a quantitative approach. By collecting data from a sample at a single point in time, this design enabled prediction of behaviors in large populations and examination of relationships among variables without the impracticality of direct observation (Bordens & Abbot, 2002; Kerlinger, 1986).

Population of the Study

The target population comprise all hotels operating within Rivers State, Nigeria.

Sampling Technique and Sample Size Determination

The study adopts a cross-sectional survey design to examine the relationship between lean operations and quality service delivery in the hospitality sector. This design allows for the collection of data at a single point in time from hotel management staff in Rivers State, providing a clear snapshot of current service delivery practices. The population comprises management personnel such as general managers, department heads, and supervisors, as they possess direct knowledge of operational strategies and service delivery. The selection of hotels was based on a range of factors, including accreditation, service offerings, and adherence to regulatory guidelines.

A multi-stage sampling approach is employed to ensure a representative sample. To get the actual number of hotels in each local government, the study relied on information sourced from hotelsng.com to select hotels across the 23 local government areas in Rivers State, and a systematic selection process was applied at intervals to ensure geographic diversity. The study selected the first hotel on the list for each local government and picked at an interval of five and by doing this, the total number of selected hotels were 25 hotels. The researcher distributed 13 copies of the research instrument to the selected hotels of which 330 hotel management staff were sampled. The research relies primarily on primary data collected through structured questionnaires, A four-point Likert scale is used for responses, ensuring a structured approach to data collection. To enhance the validity and reliability of the instrument, the questionnaire undergoes expert review and pilot testing. Face, convergent, and discriminant validity are assessed, and Cronbach's Alpha is used to confirm internal consistency, with a threshold of 0.7 indicating acceptable reliability.

Data analysis involves descriptive statistics to summarize demographic details and preliminary checks for missing values, normality, and multicollinearity using SPSS software. The primary analytical tool is Pearson's product moment coefficient, which examines relationships between multiple independent and dependent variables.

Using the Freud and Williams (1994) formula:

$$n = \frac{Z^2pq}{e^2}$$

where p = proportion of positive responses, q = 1 – p, e = margin of error, and Z = confidence level,

The calculated sample size is approximately 246 customers.

Nature/Sources of Data

Both primary informed the study. Primary data was collected via questionnaires, while secondary data was drawn from oral interviews and relevant scholarly literature.

Methods of Data Collection/Instrumentation

Primary data collection involved administering structured questionnaires directly to respondents. A four-point Likert-scale questionnaire (1 = Strongly Disagree to 4 = Strongly Agree) will be used. The researcher personally distributed and collected questionnaires to ensure completeness.

Validity and Reliability

To establish content validity, experts from the Department of Hospitality and Tourism Management reviewed the instrument, and feedback guided revisions (Gall et al., 2007). Reliability was assessed via Cronbach’s Alpha in SPSS v.23.0; coefficients ≥ 0.70 indicate acceptable internal consistency (Nunnally, 1978; Mugenda & Mugenda, 2011).

Methods of Data Analysis

Data first underwent descriptive analysis including frequencies, mean scores, and standard deviations using SPSS v.23.0. Hypotheses were tested through Pearson’s Product Moment Correlation Coefficient to explore relationships among the study variables.

Analyses and Results

Univariate Analysis

This section focuses on the univariate analysis of the data involving the dimensions of the independent variable as well as the measures of dependent variable.

Table 1: Frequency Distribution of the Research Questions on Real Time Booking System

	Real Time Booking System	MEAN	SD	Decision
1.	I find the hotel’s online booking system accurate in showing room availability.	3.82	1.15	Accepted
2.	I am satisfied with the speed of the hotel’s booking process.	3.98	1.11	Accepted
3.	I have experienced issues with the hotel’s reservation system displaying incorrect information.	3.47	1.21	Accepted
4.	It is easy for me to modify or cancel a reservation using the hotel’s database reservation system.	3.56	1.27	Accepted

Data in Table 1 indicated that respondents subscribed to items 1-4. The items in these areas were accepted since their mean value was above the criterion mean of 3.0. In summary, it is evident that the respondents agreed the item to be real time booking system.

Table 2: Frequency Distribution of the Research Questions on Customer Relationship Management

	Customer Relationship Management Integration	MEAN	SD	Decision
5.	The hotel’s reservation system effectively remembers my preferences for future bookings.	3.83	1.15	Accepted
6.	I receive personalized communication from the hotel based on my booking history.	3.81	1.15	Accepted
7.	I am satisfied with the follow-up communication after my reservation is made.	3.77	1.21	Accepted
8.	The hotel’s system provides me with timely reminders or updates about my reservation.	3.59	1.27	Accepted

Data in Table 2 indicated that respondents subscribed to items 5-8. The items in these areas were accepted since their mean value was above the criterion mean of 3.0. In summary, it is evident that the respondents agreed the item to be customer relationship management.

Table 3: Frequency Distribution of the Research Questions on Multi-Channel Integration

	Multi-Channel Integration	MEAN	SD	Decision
9	My experience is seamless when using multiple channels	3.75	1.16	Accepted
10	I use multiple channels for managing my hotel reservations.	3.69	1.17	Accepted
11	I am satisfied with the consistency of information across the hotel's various reservation platforms.	3.58	1.22	Accepted
12	It is easy to transition between booking platforms	3.66	1.22	Accepted

Data in Table 3 indicated that respondents subscribed to items 9-12. The items in these areas were accepted since their mean value was above the criterion mean of 3.0. In summary, it is evident that the respondents agreed the item to be multi-channel integration.

Table 4.: Frequency Distribution of the Research Questions on Customer Satisfaction

	Customer Satisfaction	MEAN	SD	Decision
13	I am satisfied with the overall quality of service provided by the hotel.	3.68	1.13	Accepted
14	The innovations in the hotel met my expectations.	3.54	1.25	Accepted
15	The hotel's digital facilities contributed positively to my experience.	3.60	1.16	Accepted
16	I found the hotel staff to be very knowledgeable about their systems	3.71	1.14	Accepted

Data in Table 4 indicated that respondents subscribed to items 13-16. The items in these areas were accepted since their mean value was above the criterion mean of 3.0. In summary, it is evident that the respondents agreed the item to be customer satisfaction.

Table 5: Frequency Distribution of the Research Questions on Willingness to Recommend

	Willingness to Recommend	MEAN	SD	Decision
17	I would recommend this hotel to my friends or family.	3.84	1.11	Accepted
18	Based on my experience, I believe this hotel is a good choice for other travelers.	3.75	1.11	Accepted
19	I am likely to post a positive review about this hotel on online platforms.	3.83	1.12	Accepted
20	I would book this hotel again for my future stays.	3.63	1.26	Accepted

Data in Table 5 indicated that respondents subscribed to items 17-20. The items in these areas were accepted since their mean value was above the criterion mean of 3.0. In summary, it is evident that the respondents agreed the item to be willingness to recommend.

Table 6: Frequency Distribution of the Research Questions on Customers' Trust

	Customers' Trust	MEAN	SD	Decision
21	This hotel's reservation system securely handles my personal and payment information.	3.69	1.23	Accepted
22	The hotel's reservation system provides accurate and reliable information about room availability.	3.55	1.27	Accepted
23	The hotel's reservation system ensures a fair and transparent booking process.	3.76	1.20	Accepted
24	I feel confident using the hotel's reservation system for making future bookings.	3.88	1.28	Accepted

Data in Table 6 indicated that respondents subscribed to items 21-24. The items in these areas were accepted since their mean value was above the criterion mean of 3.0. In summary, it is evident that the respondents agreed the item to be customers' trust.

4. Bivariate Analysis

Table 7: Pearson Correlation result

	Real-Time Availability and Booking	Customer Satisfaction
Real-Time Availability and Booking	Pearson Correlation	1
	Sig. (2-tailed)	.543**
	N	246
Customer Satisfaction	Pearson Correlation	.543**
	Sig. (2-tailed)	1
	N	246

** . Correlation is significant at the 0.05 level (2-tailed).

Table 7 above reveals that there is a strong degree of positive association between Real-Time Availability and Booking and v of hotels in Port Harcourt. This is because the Pearson Correlation Co-efficient is 0.534 while P. value (2-tailed) is 0.000. Since P-value of 0.000 is less than 0.05, we therefore reject the null hypothesis and accept the alternative hypothesis

Table 8: Real-Time Availability and Booking and Willingness to Recommend Hotels in Port Harcourt.

Correlations between

		Real-Time Availability and Booking	Willingness to Recommend
Real-Time Availability and Booking	Pearson Correlation	1	.764**
	Sig. (2-tailed)		.000
	N	246	246
Willingness to Recommend	Pearson Correlation	.764**	1
	Sig. (2-tailed)	.000	
	N	246	246

Correlation is significant at the 0.05 level (2-tailed).

Table 8 above reveals that there is a positive relation between Real-Time Availability and Booking and Willingness to Recommend hotels in Port Harcourt. This is because the Pearson Correlation Co-efficient is 0.764 while P. value (2-tailed) is 0.000. Since P-value of 0.000 is less than 0.05, hence the rejection of the second null hypothesis and the alternate accepted

Table 9: Customer Relationship Management and Customer Satisfaction of Hotels in Port Harcourt.

Correlations

		Customer Relationship Management	Customer Satisfaction
Customer Relationship Management	Pearson Correlation	1	.758**
	Sig. (2-tailed)		.000
	N	246	246
Customer Satisfaction	Pearson Correlation	.758**	1
	Sig. (2-tailed)	.000	
	N	246	246

Correlation is significant at the 0.05 level (2-tailed).

Table 9 above reveals that there is a good deal of interrelationship amongst Customer Relationship Management and Customer Satisfaction of hotels in Port Harcourt. This is because the Pearson Correlation Co-efficient is 0.758 while P. value (2-tailed) is 0.000. Since P-value of 0.000 is less than 0.05, hence the rejection of the null hypothesis and the alternate accepted

Table 10: Customer Relationship Management and Willingness to Recommend Hotels in Port Harcourt.

Correlations

		Customer Relationship Management	Willingness to Recommend
Customer Relationship Management	Pearson Correlation	1	.768**
	Sig. (2-tailed)		.000
	N	246	246
Willingness to Recommend	Pearson Correlation	.768**	1
	Sig. (2-tailed)	.001	
	N	246	246

Correlation is significant at the 0.05 level (2-tailed).

Table 10 above reveals that there is a good deal of positive relations between Customer Relationship Management and Willingness to Recommend hotels in Port Harcourt. This is because the Pearson Correlation Co-efficient is 0.768 while P. value (2-tailed) is 0.001. Since P-value of 0.001 is less than 0.05, hence the rejection of the null hypothesis and the alternate accepted

Table 11: Multi-Channel Intergration and Customer Satisfaction of Hotels in Port Harcourt.

Correlations

		Multi-Channel Intergration	Customer Satisfaction
Multi-Channel Intergration	Pearson Correlation	1	.687**
	Sig. (2-tailed)		.000
	N	246	246
Customer Satisfaction	Pearson Correlation	.687**	1
	Sig. (2-tailed)	.000	
	N	246	246

Correlation is significant at the 0.05 level (2-tailed).

Table 11 above reveals that there is a faire degree of positive relationship between Multi-Channel Intergration and Customer Satisfaction of hotels in Port Harcourt. This is because the Pearson Correlation Co-efficient is 0.687 while P. value (2-tailed) is 0.000. Since P-value of 0.000 is less than 0.05, hence the rejection of the null hypothesis and the alternate accepted

Table 12: Multi-Channel Intergration and Willingness to Recommend Hotels in Port Harcourt.
Correlations

		Multi-Channel Intergration	Willingness to Recommend
Multi-Channel Intergration	Pearson Correlation	1	.534**
	Sig. (2-tailed)		.000
	N	246	246
Willingness to Recommend	Pearson Correlation	.534**	1
	Sig. (2-tailed)	.001	
	N	246	246

Correlation is significant at the 0.05 level (2-tailed).

Table 12 above reveals that there is a degree of positive relationship between Multi-Channel Intergration and Willingness to Recommend hotels in Port Harcourt. This is because the Pearson Correlation Co-efficient is 0.534 while P. value (2-tailed) is 0.001. Since P-value of 0.001 is less than 0.05, hence the null hypothesis was rejected and the alternate accepted.

Table 13: Customers’ Trust, Utilization of Data Based Reservation System and Performance of Hotels in Rivers State.
Correlations

		Customers’ Trust	Utilization of Data Based Reservation System	Hotel Performance
Customers’ Trust	Correlation Coefficient	1	.772**	.678**
	Sig. (2-tailed)	.	.000	.000
	N	246	268	246
Utilization of Data Based Reservation System	Correlation Coefficient	.772**	1	.692**
	Sig. (2-tailed)	.000	.	.000
	N	246	246	246
Hotel Performance	Correlation Coefficient	.678**	.692**	1
	Sig. (2-tailed)	.000	.000	.
	N	246	246	246

Correlation is significant at the 0.05 level (2-tailed).

Table 13 above reveals that guest’s satisfaction strongly and positive moderate the relationship between utilization of data-based reservation system and performance of hotels in Port Harcourt. This is because the Pearson Correlation Co-efficient is 0.678 while P. value

(2-tailed) is 0.000. Since P-value of 0.000 is less than 0.05, hence the null hypothesis was rejected and the alternate accepted

5. Discussion

The analyses reveal that each dimension of the digital reservation system exerts a distinct yet mutually reinforcing influence on hotel guests' satisfaction and advocacy. Firstly, real-time availability and booking capabilities emerge as a powerful driver of positive guest perceptions. As real-time inventories and confirmations become more accurate and instantaneous, guests experience greater control and reduced uncertainty—an effect that translates into significantly higher satisfaction ($r = 0.543$, $p < 0.001$) and an even stronger propensity to recommend the hotel to others ($r = 0.764$, $p < 0.001$). In other words, when guests can see and secure room availability in real time, they not only feel more confident in their choice but become vocal advocates for the property. This is in line with the study of Davies and Wilson (2018) which revealed that customers who had access to real-time ticket availability reported 20% higher satisfaction with their overall booking experience compared to those using delayed systems. And also, found that real-time booking encouraged early bookings and reduced last-minute cancellations

Equally impactful are customer relationship management (CRM) practices. By capturing guest preferences, personalizing communications, and swiftly resolving issues, CRM systems foster an emotional bond between the hotel and its patrons. This bond is reflected in very strong correlations with both satisfaction ($r = 0.758$, $p < 0.001$) and recommendation ($r = 0.768$, $p < 0.001$). In practice, the ability to anticipate needs—such as pre-arrival room preferences or post-stay follow-ups—and to address concerns through a unified interface not only elevates the guest experience but also converts satisfied customers into enthusiastic referrers. This finding confirms the findings of Eid (2007) and Akroush et al (2011) who both demonstrated a strong positive relationship between customer relationship management implementation and customer satisfaction, which directly influenced the likelihood of customers recommending the business

Multi-channel integration further enhances the guest journey by ensuring that interactions on websites, mobile apps, call centers, and front-desk kiosks communicate a consistent message. This seamless connectivity yields a solid uplift in satisfaction ($r = 0.687$, $p < 0.001$) and a moderate rise in willingness to recommend ($r = 0.534$, $p < 0.001$). The slightly lower effect on recommendation suggests that while multi-channel harmony makes the stay smoother, its strongest benefit lies in reinforcing satisfaction rather than directly driving advocacy. This finding is in tandem with the previous assertion of Sousa and Voss (2012), Kumar and Tan (2015) which study revealed that seamless integration across multiple channels significantly enhanced customer engagement, which, in turn, led to a higher willingness to recommend the brand

Finally, the interplay of customers' trust and utilization of data-based reservation systems (DBRS) underscores the role of confidence in technology. Trust and utilization are tightly linked ($r = 0.772$, $p < 0.001$), and both feed into system performance (utilization \rightarrow performance: $r = 0.692$; trust \rightarrow performance: $r = 0.678$; all $p < 0.001$). In essence, when guests believe their data are secure and the system is reliable, they engage more fully with

the booking platform, which in turn generates better operational outcomes further validating the strategic importance of transparent privacy policies and robust security measures. This aligns with the findings of Lee and Choi (2020) who submitted that trust in the retailer's ability to deliver products on time, ensure product quality, and safeguard personal data was significantly linked to higher levels of customer satisfaction. Trust in the retailer was seen as a key predictor of satisfaction, reinforcing the idea that trust plays a central role in e-commerce, where physical interactions are limited.

6. Conclusion

The study demonstrates that the core components of digital reservation systems real-time availability and booking, customer relationship management, and multi-channel integration exert significant and complementary effects on guest satisfaction and advocacy in Port Harcourt's hotel sector. Real-time booking delivers both confidence and clarity, translating directly into heightened satisfaction and a strong propensity to recommend. CRM practices deepen emotional connections through personalization and prompt issue resolution, further amplifying guests' likelihood to endorse the property. Seamless integration across channels reinforces these effects by ensuring consistency at every touchpoint, while robust trust in and active utilization of data-based systems underpins sustained performance gains.

7. Implications of the Study

For hotel operators, this research highlights the strategic necessity of investing in technologically advanced, customer-centric reservation platforms. Prioritizing instantaneous inventory updates and confirmations not only reduces guest uncertainty but also fosters enthusiastic word-of-mouth promotion. Equally, deploying CRM solutions that capture and act on individual preferences can transform satisfied guests into loyal advocates. Ensuring that website, mobile, phone, and in-person channels share unified pricing, messaging, and service protocols strengthens overall guest satisfaction, even if its direct impact on referral behavior is slightly less pronounced. Finally, building and maintaining customer trust through transparent data-protection policies, visible security certifications, and reliable system performance encourages deeper engagement with booking platforms and drives operational efficiencies.

Academically, the findings extend global literature by empirically validating the interdependencies among reservation system features in an emerging-market context. The pronounced moderating role of trust invites further exploration within established technology-adoption frameworks, suggesting that future theoretical models should account more explicitly for confidence as both a precursor to utilization and a catalyst for performance. Moreover, the correlational design underscores the need for longitudinal and experimental studies to establish causality and unpack mediating variables such as perceived ease of use or system quality.

8. Recommendations

Deploy or Upgrade Real-Time Booking Engines: Partner with leading technology vendors to integrate dynamic availability modules directly with property management and distribution channels, ensuring guests receive up-to-the-minute confirmations.

Invest in Advanced CRM Platforms: Implement systems capable of mining guest data for predictive personalization such as automated pre-arrival preferences and post-stay follow-ups to foster deeper loyalty and positive referrals.

Conduct Regular Omni-Channel Audits: Establish cross-functional teams to review and align messaging, pricing, and service standards across all guest touchpoints, from web and app to call centers and front desks.

Enhance Data Security and Trust Signals: Publish clear privacy notices, obtain recognized security certifications (e.g., PCI DSS), and train staff to communicate these safeguards effectively to guests.

Train Staff and Educate Guests: Offer ongoing technical training on CRM and booking systems for employees, while providing simple tutorials or guided walkthroughs for guests to fully leverage digital check-in and mobile features.

By acting on these recommendations, hotel managers in Port Harcourt and similar markets can transform digital reservation systems from mere transactional tools into strategic engines of customer satisfaction, loyalty, and competitive advantage.

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