A Study on the Role of Data Analytics in Understanding Customer Preferences, Loyalty and Satisfactions in Hospitality Industry

Shreya Kava

Shreya

III Semester MBA,
Post Graduate Department of Business Administration
Alva's Institute of Engineering &Technology,
Mijar, Moodabidri, Dakshina Kannada
shreyakava318@gmail.com
Shettyshreya068@gmail.com

Abstract

This study aims to explore the relationship between customer preferences, customer satisfaction, and customer loyalty in the hotel industry using data analytics. The hospitality industry is constantly evolving, with dynamic market conditions, changing customer preferences, and operational complexities. In this landscape, making data-driven decisions has become crucial for businesses to thrive. The advent of social media and the abundance of consumer-generated content on the internet have further emphasized the need for data analytics to understand and solve real-life problems in the industry. It is imperative that businesses take into account customer preferences and choices when making decisions regarding product and service attributes. Managers need to understand how customers integrate, value, and trade off different product and service attributes. By the same token, information about customer demands and preferences must be incorporated into the design and day-to-day management of service-delivery processes, one of the key factors that contribute to a business's success in the hospitality industry is customer loyalty. Building a loyal customer base is essential for sustained growth and profitability. In the hospitality industry, service quality becomes the key to gaining a good position recognizing the significance of customer loyalty.

Data analytics provides a powerful tool to delve into the vast amount of data generated by customers, allowing businesses to gain valuable insights and make informed decisions. By analyzing customer preferences and satisfaction levels, businesses can identify the factors that positively impact customer loyalty. This understanding can help hotels tailor their offerings and services to meet the specific needs and desires of their target audience, thereby fostering loyalty and repeat business. The study will employ various data analytics techniques to analyze customer data, including surveys, online reviews, social media sentiment analysis, and demographic information. By examining these data sources, the study aims to uncover patterns and correlations that can shed light on the factors driving customer loyalty in the hotel industry.

1

Through the use of data analytics, this study seeks to extend our understanding of customer loyalty beyond traditional measures such as customer satisfaction. It aims to identify the specific preferences and satisfaction factors that have a positive influence on customer loyalty. By doing so, hotels can focus their efforts on enhancing these factors, thereby increasing customer loyalty and ultimately driving business success.

Keywords: Customer Satisfaction, Customer loyalty, Customer Preferences, Data analytics, Hospitality industry.

Introduction

The hospitality industry is undergoing a profound transformation driven by technological advancements and shifting consumer expectations. In this era of rapid change, businesses in the hospitality industry are increasingly recognizing the significance of data analytics in gaining a competitive edge and ensuring sustained success. Hospitality has evolved into truly global industries in which both consumers and producers are dispersed worldwide. Due to changes in lifestyle the services offered by hospitality businesses are now considered to be necessities, rather than luxuries. Consequently, during the past decade, there has been an exponential growth in hospitality businesses to meet the demands of the growing market. This has provided consumers with a great variety of choices while simultaneously augmenting competition in the marketplace. Consequently, hospitality organizations today are faced with intense competition, and the associated challenge of steady growth in a competitive environment hence, in the scheme of business it has become apparent that the ultimate goal of any organization in a hyper-competitive market, is to maintain a loyal customer base. It is essential for any hospitality organization to seek opportunities to gain a competitive advantage by adopting various strategies. It is thus imperative that hospitality firms develop proactive strategies to gain customer loyalty, as opposed to relying on pricing strategies to attract new customers.

In most businesses, loyal customers are willing to pay a premium price; loyal customers make cost savings by using the service of a service provider they know well. The long-term benefits of the customer-supplier relationship are significant to any firm. It is commonly believed that by satisfying customers, firms can improve their profits. Management thinker Peter Drucker (1973:79) wrote, "to satisfy the customer is the mission and purpose of every business." Thus, for many years, business organizations have focused on customer satisfaction programs (Bhote, 1996). Although satisfying customers is essential for any organization, studies show that satisfying customers alone is not enough, since there is no guarantee that satisfied customers will return to purchase (Dube et al., 1994). Bowen and Shoemaker (1998) indicated that loyalty extends beyond simple satisfaction. Customer loyalty also addresses the issue of how likely a customer is to return and the customer's willingness to perform "partner-like" activities for the hotel– that is, recommendations to friends. Thus, it is now becoming apparent that it is no longer customer satisfaction, but customer loyalty, that constitutes the dominant factor in the success of a business organization. This study investigates the pivotal role played by data analytics in comprehending customer preferences, fostering loyalty, and ensuring satisfaction within the hospitality industry.

Objectives of the study

➢ To critically examine the significance of data analytics in the hospitality industry and its role in comprehending customer preferences.

➢ Explore how data analytics contributes to the identification and measurement of customer loyalty in the hospitality industry.

➢ Investigate the role of data analytics in measuring and improving customer satisfaction in hospitality.

➢ Identify challenges faced by the hospitality industry in implementing data analytics for understanding customer preferences, loyalty, and satisfaction.

Scope of the Study

➢ The study encompasses a comprehensive investigation into the role of data analytics in the hospitality industry with a specific focus on understanding customer preferences, fostering loyalty, and ensuring satisfaction.

➢ The study will analyze the significance of data analytics in the hospitality sector, shedding light on its contributions to comprehending and adapting to evolving customer preferences.

➢ It aims to explore how data analytics aids in identifying and measuring customer loyalty, emphasizing the importance of cultivating a loyal customer base for sustained success.

➢ The study identifies and discusses challenges faced by the hospitality sector in effectively implementing data analytics for understanding customer preferences, loyalty, and satisfaction.

Methodology

This review paper is purely dependent on secondary data which involves collecting and analyzing the research studies which is previously published articles, publications which is related to data analytics in hospitality industry. The data analyzing process will be analyzing all the papers and summarizing and identifying the key findings.

Liturature Review

Sl. No	Author(s)	Year	Title	Methodology	Key findings
1	Dhankar, Sandeep	2019	Investment trends in Indian hospitality industry an analytical study	Literature review Hospitality Magazines and Research Articles	Factors Affecting Growth of Indian Hospitality Industry, Investment (FDI) Patterns in General and in Hospitality Industry and Government Policies & Hospitality Sector.

2	Kumar, Sanjeev	2012	Customer satisfaction and loyalty in Indian hospitality industry	Research Design, Survey Population of the Study and Survey sample of the Study	Customer Satisfaction and Loyalty and it importance in Hotel Industry, the present study focuses on hotel Chain/Groups because customer loyalty is considered to be a more important issue for hotel Chain/Groups than for independent hotels. The unit of analysis in this research is individual guests at Chain/Group hotels. To achieve this objective, cross-sectional data is collected from Chain/Group hotel customers.
3	Minwoo Lee, Wooseok Kwon, Ki-Joon Back	2021	Artificial intelligence for hospitality big data analytics: developing a prediction model of restaurant review helpfulness for customer decision-making	Restaurant reviews collected from Yelp.com and literature review	User-generated content websites have become a critical source for consumers to select service purchases and share experiences This study seeks to develop the prediction model of restaurant review helpfulness by comparing multiple ML algorithms.
4	Marcello Mariani, Rodolfo Baggio	2022	Big data and analytics in hospitality and tourism: a systematic literature review	Research design and data collection Quantitative literature review of academic articles	They focused on the perceptions, experiences, emotions, satisfaction and engagement with hospitality and tourism services of tourists residents and service providers. The fields of hospitality and tourism have witnessed an increasing use of (and attention to) BD and analytics,

5	Marcello Mariani	2020	Big Data and analytics in tourism and hospitality: a perspective article	Tourism Review, this work consists of a critical and conceptual analysis including a mini literature review of recent work in the area at the intersection of BD and tourism and hospitality research.	Findings suggest that tourism and hospitality scholars are increasingly aware of and adopting BD approaches to retrieve, collect, analyse, report and visualise their data.
6	Pei-Ju Lucy Ting, Szu-Ling Chen, Hsiang Chen, Wen-Chang Fang	2017	Using Big Data and Text Analytics to Understand How Customer Experiences Posted on Yelp.com Impact the Hospitality Industry	Research Design, Data Collection, Data Analysis and Pre-processing, Statistical Analysis	The results of the analysis reveal patterns reflective of consumers' evaluation of their experiences with hotels.
7	Dragana ćamilović1	2018	Data analysis applications in tourism and hospitality marketing	Research Design, Survey Population of the Study and Survey sample of the Study	The aim of this paper is to emphasize why data analysis is so important and what it can be used for.
8	Paul Bradley	2022	Ways how data analytics improve customer satisfactions	Research Design, Data Collection, Data Analysis and Pre-processing, Statistical Analysis	How data analytics improve customer satisfactions by providing better services, updated price and building trust

9	Raouf ahmad rather, Jyothi sharma	2016	Customer Engagement in Strengthening Customer Loyalty in Hospitality Sector	Data collection, variables operationalization, data analysis, analysis and findings	This study focused to investigate the influence of customer engagement on affective commitment and customer loyalty in the hospitality sector. Customer engagement acts as a useful tool in the relationship building strategies in hospitality sector.
10		2023	7 use cases of data analytics in hospitality industry in 2024	Research Design, Data Collection, Data Analysis and Pre-processing, Statistical Analysis	Importants of data analytics and its challenges in hospitality industry
11	Marcello mariani, giuseppe di fatta and marco di felice	2022	Understanding Customer Satisfaction With Services by Leveraging Big Data: The Role of Services Attributes and Consumers' Cultural Background	Data collection, variables operationalization, data analysis, analysis and findings	The results of the analyses show that most of the variance of the rating of a hotel is explained, in order of relevance, by the critical hotel service attributes: hotel condition, room comfort, service and staff and cleanliness. All of the critical Hotel service attributes are positively related to the overall Satisfaction online rating thus lending support to existing Research conducted in offline settings.
12	Damianos P. Sakas a, Dimitrios P. Reklitis a, Marina C. Terzi a, Niki Glaveli b	2023	Growth of digital brand name through customer satisfaction with big data analytics in the hospitality sector after the COVID-19 crisis	Data gathering and statistical analysis	This study explores how users' online behavioral attitudes that affect the visibility of tripadvisor's rating and the digital development of the tourism websites' brand as well as to offer concrete guidelines on communication optimization strategies with the intention to strengthen corporate branding.

13	Nitin Liladhar Rane	2023	Enhancing Customer Loyalty through Artificial Intelligence (AI), Internet of Things (iot), and Big Data Technologies: Improving Customer Satisfaction, Engagement, Relationship, and Experience	Data collection, variables operationalization, data analysis, analysis and findings	In this study they focused on data-driven technologies for enhancing customer loyalty, satisfaction, engagement, relationship, and Experience
14	Zohreh Zara Zarezadeh Raymond Rastegar and Zheng Xiang	2021	Big data analytics and hotel guest Experience: a critical analysis of The literature	This research is based on a Preferred Reporting Items for Systematic Reviews and Meta-analysis literature review of academic journal articles in Google Scholar published up to the end of 2022	By data types, user-generated content, especially online reviews and ratings, was at the centre of Attention for hospitality-related big data research. By variables, the hospitality-related big data fell into two Crucial factor categories: physical environment and guest-to-staff interactions.
15	Nitin Liladhar Rane, Anand Achari, Saurabh P. Choudhary	2023	The use of big data analytics to discover customers' perceptions of and satisfaction with green hotel service quality	Data collection, variables operationalization, data analysis, analysis and findings	The study reveals that customer loyalty is impacted by several factors, including customer satisfaction, Trust, service and product quality, brand loyalty, company reputation, customer engagement, and social media Presence. It is essential for companies to maintain customer loyalty to secure a steady flow of revenue, attract New customers, and sustain growth.

16	Panchapak esan Padma, Jiseon Ahn	2020	Guest satisfaction & dissatisfaction in luxury hotels: An application of big data	Research Design, Survey Population of the Study and Survey sample of the Study	In this study, quality of rooms and interaction with employees have been determined as major drivers of customers' word of mouth and revisit intentions. This study contributes with an empirical analysis of particular features of textual context and discussion of the concept of luxury service in the developing countries has been largely neglected so far.
17	Saara Said	2023	The Role of Artificial Intelligence (AI) and Data Analytics in Enhancing Guest Personalizatio n in Hospitality	The study adopted a desktop research methodology.	The findings revealed that there exists a contextual and methodological gap relating to the role of Artificial Intelligence (AI) and data analytics in enhancing guest personalization. The findings of this study provide valuable insights for hoteliers, service providers, and policymakers looking to harness the power of AI and data analytics to create exceptional guest experiences in the evolving landscape of hospitality.

Findings of the study:

➢ Factors affecting the growth of the Indian hospitality industry, investment patterns, and government policies are discussed, providing insights into the industry's economic landscape.

➢ User-generated content, especially online reviews and ratings, was at the center of attention for hospitality-related big data research.

➢ The hospitality-related big data fell into two crucial factor categories: physical environment and guest-to-staff interactions.

➢ Although research using big data to investigate factors affecting hotel guest experience and satisfaction mainly focused on physical environment and guest-to-staff satisfaction, there is still a lack of research applying big data to identify and evaluate the GGE factor and their impact on hotel guest experience and satisfaction.

➢ Big data has constantly drawn attention in the hospitality industry, specifically in the guest experience, but to the best of the authors' knowledge, no study has been conducted to summarize the accelerating trend in this area.

➢ The findings of this research provide practical implications for the industry, as big data can promote and develop sustainable approaches in hospitality.

➢ Application of big data analytics to predict online complaining behaviour in the hospitality industry through analysis of online reviews.

➢ Focuses on customer satisfaction and loyalty in the hotel industry in India, considering the importance of these factors in hotel chains/groups.

➢ Develops a prediction model of restaurant review helpfulness for customer decision-making using artificial intelligence and big data analytics.

➢ A systematic literature review exploring the perceptions, experiences, and satisfaction of tourists, residents, and service providers in hospitality and tourism.

➢ Emphasizes the importance of data analysis in tourism and hospitality marketing, outlining various applications.

➢ Discusses how data analytics improves customer satisfaction by providing better services, updated prices, and building trust.

➢ Investigates the influence of customer engagement on affective commitment and loyalty in the hospitality sector.

➢ Highlights seven use cases of data analytics in the hospitality industry in 2024, emphasizing its importance and challenges.

➢ Leverages big data to understand customer satisfaction with services, focusing on service attributes and consumers' cultural backgrounds.

➢ Explores the growth of digital brand names through customer satisfaction with big data analytics in the hospitality sector after the COVID-19 crisis.

➢ Focuses on enhancing customer loyalty, satisfaction, engagement, relationship, and experience through data-driven technologies.

➢ Provides a critical analysis of the literature on big data analytics and its impact on hotel guest experiences, categorizing data into user-generated content and crucial factors.

➢ Uses big data analytics to discover customers' perceptions of and satisfaction with green hotel service quality, emphasizing factors impacting customer loyalty.

➢ Empirically analyses guest satisfaction and dissatisfaction in luxury hotels, highlighting the importance of room quality and employee interactions.

➢ Investigates the role of AI and data analytics in enhancing guest personalization in the hospitality industry, identifying gaps and providing insights for hoteliers and service providers.

➢ Marriott has implemented advanced data analytics techniques to gain insights into guest preferences and behavior. Through their Marriott Bonvoy loyalty program, the company collects and analyzes data on members' booking patterns, stay preferences, and feedback. The data is used to personalize the guest experience, offering tailored recommendations, promotions, and services based on individual preferences.

Importance of the study

➢ Businesses in the hospitality industry can use data analytics to make strategic decisions based on customer preferences. Understanding these preferences allows for targeted marketing, personalized services, and efficient resource allocation.

➢ The study addresses the competitive nature of the hospitality industry, emphasizing the role of data analytics in gaining a competitive advantage. Businesses that leverage data to understand and cater to customer needs are more likely to outperform their competitors.

➢ By exploring the link between data analytics and customer loyalty, the study provides insights into strategies for fostering long-term relationships with customers. This is crucial for sustained success in a hyper-competitive market.

➢ Businesses can use data analytics to enhance customer satisfaction by identifying areas for improvement in service quality. This leads to better service delivery, which, in turn, contributes to higher levels of customer loyalty.

➢ The study acknowledges the exponential growth in the hospitality sector to meet market demands. Data analytics enables businesses to adapt to changing market dynamics by staying informed about evolving customer preferences and industry trends.

➢ Loyal customers are often willing to pay premium prices, resulting in increased revenue for businesses. By understanding customer preferences through data analytics, businesses can tailor their offerings to meet specific needs, potentially leading to higher profits.

➢ Data analytics contributes to operational efficiency in the hospitality sector by optimizing processes, streamlining logistics, and reducing costs. This efficiency positively impacts customer satisfaction and loyalty.

➢ The study recognizes the importance of data analytics in risk management. By analysing customer preferences and market trends, businesses can anticipate changes and mitigate risks associated with shifts in consumer behaviour or economic conditions.

➢ Instead of relying solely on pricing strategies, businesses are encouraged to adopt proactive strategies for gaining customer loyalty. Data analytics empowers businesses to make informed decisions that go beyond attracting new customers based on pricing alone.

➢ The study identifies challenges faced by the hospitality industry in implementing data analytics. Understanding these challenges provides businesses with an opportunity to address them effectively and harness the full potential of data analytics for customer insights.

Conclusions

In conclusion, the study sheds light on the pivotal role of data analytics in understanding customer preferences, fostering loyalty, and ensuring satisfaction within the hospitality industry. The hospitality sector, being a global and highly competitive industry, faces the challenge of sustaining growth and maintaining a loyal customer base. The findings highlight the evolving landscape of the Indian hospitality industry, the importance of customer satisfaction and loyalty in hotel chains, and the application of artificial intelligence and big data analytics in predicting and enhancing various aspects of customer experiences.

Moreover, the literature review reveals a growing awareness and adoption of big data approaches in tourism and hospitality research. From predicting online complaining behaviour to developing models for restaurant review helpfulness, researchers are leveraging data analytics to gain insights into customer behaviour and preferences. The study emphasizes the shift from merely satisfying customers to building

customer loyalty, acknowledging that loyal customers contribute significantly to a firm's long-term success. Challenges in implementing data analytics in the hospitality industry are acknowledged, underscoring the need for proactive strategies and technological advancements to harness the full potential of data-driven insights.

In the rapidly changing landscape of the hospitality industry, data analytics emerges as a critical tool for decision-making, marketing optimization, and personalized customer experiences. The findings provide a comprehensive understanding of the multifaceted applications of data analytics, from improving operational efficiency to strengthening corporate branding, ultimately contributing to the overarching goal of enhancing customer satisfaction, loyalty, and engagement. As the industry continues to evolve, businesses that effectively harness the power of data analytics are likely to gain a competitive edge and thrive in the dynamic and competitive hospitality market.

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