

# Measuring **Hotel Customer Loyalty**: Indicators and Metrics

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**Abstract** | In the explored topic of measuring hotel guest loyalty, factors influencing the formation of guest loyalty in conditions of intense competition for consumers are considered. The primary focus of this work is directed towards the impact of the internet and social media in terms of reviews and feedback on customers' decisions regarding service acquisition, where positive reviews can attract new guests while negative ones can affect the image and reputation of the hotel. It has been demonstrated that retaining existing customers is cheaper than acquiring new ones, and loyal customers typically make repeat bookings, utilise additional services, and may also attract new guests. The study confirms the importance of service personalisation and brand alignment with consumer values rather than solely providing high-quality services. Technological solutions, such as loyalty programs through mobile applications and online booking, can serve as tools for customer relationship management and the creation of personalised services. The conducted research highlights the importance of multidimensionality of customer loyalty, focusing on the interaction of behavioural, cognitive and emotional factors. It also adds an innovative element by using modern technologies, such as big data analysis and Customer Relationship Management (CRM) systems, to personalise services and manage customer relationships. In addition, it is important that the article considers the influence of social media and online reviews on loyalty, which helps to offer new approaches to the evaluation of loyalty programs. The cultural and social aspects of the perception of loyalty programs are an important difference from others in this field. This makes the work relevant

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and valuable for hotel industry practitioners. The research convincingly supports the thesis that active efforts toward fostering loyalty are key factors for the sustainable development of the hotel business.

**Keywords** | hospitality industry, hotel, Key Performance Indicator (KPI), loyalty program, Net Promoter Score (NPS)

## **1. Introduction**

Customer loyalty formation is a pivotal element of successful business operations within the hospitality industry. Within the hotel sector, several factors contribute to this process. Amidst high competition, hotels must distinguish themselves from competitors and retain loyal clientele. The influence of online information and social media has become significantly important (Górska-Warsewicz & Kulykovets, 2020). Positive reviews and recommendations can attract new customers, while negative ones can impact reputation. Another crucial aspect is the revenue enhancement orientation factor, which characterises situational responsiveness through appropriate tool application, considering that retaining existing customers is typically more cost-effective than acquiring new ones. Contemporary travellers increasingly value personalised service. Here, the primary tool for loyalty formation lies in the customisation of services. Moreover, the application of modern technologies enables hotels to manage customer relationships more effectively and provide personalised services (Cossío-Silva et al., 2019).

In the hotel industry, there exists a range of issues associated with the formation and maintenance of customer loyalty (Dominici & Guzzo, 2010; Haghighi et al., 2012). These include the following:

1. Customer dissatisfaction: Service lacking personalisation, complex rules, and conditions of loyalty programs may lead to customer dissatisfaction and the loss of their loyalty.
2. Competition and information overload: In situations of intense competition and an abundance of offerings, hotels may find it challenging to stand out and attract the attention of potential customers.
3. Difficulty in assessing service quality: The quality of hotel services is difficult to measure, and customers may evaluate it subjectively.

Addressing these challenges requires a comprehensive approach that focuses on improving service quality, managing loyalty programs, leveraging modern technologies, and personalising services.

The novelty of this research lies in its focus on the unique characteristics of the studied market, including cultural nuances, mobile technology use, loyalty program specifics, social media influence, and trends toward sustainability and hybrid service models.

This study offers valuable insights into measuring customer loyalty in the hotel sector, informing strategies to enhance customer experience. As loyalty closely aligns with satisfaction, effective measurement can help hotels improve service quality and strengthen their market position.

## **2. Literature Review**

The measurement of customer loyalty in the hotel industry encompasses various conceptual approaches, assessment indicators, and contemporary research trends. Customer loyalty is a key factor in the long-term success of hotel businesses, as it directly influences revenue levels, competitiveness, and costs related to attracting new guests (Leitão et al., 2023). Researchers view loyalty as a multidimensional phenomenon that includes behavioural, cognitive, and emotional aspects. In the classical definition of loyalty, it is emphasised that loyalty develops gradually—from an initial level of satisfaction to a deep commitment to the brand (Agag et al., 2023; Koo et al., 2020). Moreover, behavioural and attitudinal loyalty are distinguished: the former is based on repeat visits, while the latter reflects the customer's intention to recommend the hotel or return in the future (Barten, 2024).

One of the key indicators of loyalty measurement is customer satisfaction. Scholars note that service quality and brand image are the primary determinants of loyalty in the hotel industry (Vidyanata, 2022). Gretzel (2020) underscores that the emotional connection with a hotel plays an equally important role as objective service quality indicators. Another significant factor is customer trust, which is considered a critical element in building long-term relationships between the hotel and its guests (Islam et al., 2024).

Loyalty measurement metrics are divided into three main categories: behavioural, attitudinal, and financial. Behavioural indicators assess the frequency of repeat bookings, average length of stay, and participation in loyalty programs. Research indicates that customers who frequently

use loyalty programs demonstrate a higher attachment to the hotel (Agag et al., 2024). Attitudinal indicators include methods such as the Net Promoter Score (NPS), which evaluates the likelihood of recommending the hotel to others (Ahmed et al., 2023), as well as general customer satisfaction analysis, which is used to identify their expectations and perceptions of service quality. Financial indicators, such as Customer Lifetime Value (CLV), allow for the assessment of the economic effectiveness of customer retention in the long term (Iyengar & Venkatesh, 2024b; Darvidou & Siskos, 2024).

Contemporary research highlights the importance of digital technologies in shaping customer loyalty. Kang and Lee (2022) state that service personalisation based on big data analysis significantly enhances satisfaction and repeat visits. Ferreir (2024) considers social networks as an effective tool for attracting customers and strengthening brand trust. Leiba (2023) emphasises that hotels' responsible approach to environmental aspects positively impacts customer loyalty, as consumers increasingly choose establishments that adhere to sustainable development principles.

In conclusion, the modern approach to measuring customer loyalty in the hotel industry is based on a comprehensive analysis of behavioural, emotional, and financial indicators. The use of digital technologies, service personalisation, and loyalty programs enables hotel businesses to not only enhance guest satisfaction but also establish long-term, mutually beneficial relationships with them. Further research may focus on improving loyalty prediction models through artificial intelligence and big data analytics.

A theoretical gap exists regarding which methods and tools are most effective in specific conditions and how they can be combined to achieve a more comprehensive understanding of loyalty to the hotel (Lee et al., 2021).

This study aims to demonstrate algorithms for assessing the current level of customer loyalty and identifying key factors influencing loyalty. The objectives include analysing existing tools, identifying best loyalty management practices, developing new strategies and tools, and evaluating their effectiveness. The research aims to provide specific recommendations for improving customer relationships, enhancing satisfaction, and strengthening loyalty to the hotel.

The study focuses on the multidimensionality of customer loyalty, considering it as a result of the interaction of behavioural, cognitive and emotional factors. It emphasises that loyalty is

formed not only on the basis of satisfaction, but also through emotional attachment to the brand, which is an important contribution to the existing theory.

The innovativeness of the study lies in the use of modern technologies, such as big data analysis and Customer Relationship Management (CRM) systems, to personalise services and manage customer relationships. The influence of social media and online reviews on the formation of loyalty is also considered, which allows us to offer new approaches to assessing the effectiveness of loyalty programs.

In addition, cultural and social aspects that affect customer perception of loyalty programs are highlighted, which distinguishes the study from other works in this area.

### **3. Methods and Materials**

Measuring customer loyalty in hotels is critically important for successful business operations within the hospitality industry. Various methods and tools are applied for this purpose, including surveys, feedback systems, loyalty programs, social media monitoring, data and metric analysis, tracking technologies, and the use of mystery shoppers (Iyengar & Venkatesh, 2024a).

The stages of conducting the present research sequentially involve:

- Launching a pilot loyalty program
- Look-alike analysis
- Determining NPS - Net Promoter Score, a customer loyalty index
- Analysis of Porter's Five Forces
- Calculating KPIs (Key Performance Indicators)
- Calculating ROI is one of the determining factors of loyalty resulting from the application and tracking of various business tools aimed at enhancing and monitoring customer loyalty to the hotel.

A comprehensive approach that integrates these methods allows for a thorough assessment of the level of customer satisfaction and loyalty, as well as identifying areas for improving guest relationships. The materials utilised during the research include statistical data from open electronic sources in the form of questionnaires, surveys, and data for cohort analysis of hotels.

Research Hypotheses and their objectives (testing) are presented below (Table 1).

Table 1. Research Hypotheses and Testing Methods.

Hypothesis	Objective	Testing Method	Measurement Tools	Data Sources
<b>H1: Positive online reviews and social media recommendations significantly enhance customer loyalty in the hotel industry.</b>	Assess the impact of online reviews and social media on customer loyalty.	Sentiment analysis of online reviews and social media posts.	Natural Language Processing (NLP), correlation analysis.	Online reviews, social media mentions, customer feedback.
<b>H2: Personalised services positively influence customer satisfaction, leading to increased customer loyalty.</b>	Determine the role of personalised services in improving customer satisfaction and retention.	Surveys and questionnaires.	Net Promoter Score (NPS), Likert-scale questions, customer satisfaction score (CSAT).	Customer survey responses, hotel service records.
<b>H3: Effective loyalty programs (e.g., discounts, privileges) have a direct positive impact on customer retention and repeat bookings.</b>	Analyse the effectiveness of loyalty programs in customer retention.	CRM and loyalty program data analysis.	Retention rates, repeat booking percentage, ROI calculation.	CRM systems, hotel booking statistics, loyalty program databases.
<b>H4: Service quality, including emotional experiences during the stay, significantly impacts customer loyalty.</b>	Evaluate the influence of service quality and emotional experience on customer loyalty.	Surveys, focus groups, and qualitative interviews.	Thematic analysis, Likert-scale responses, NPS.	Customer feedback, focus group discussions, hotel reviews.
<b>H5: The use of modern technologies (e.g., mobile applications, CRM tools) enhances customer relationship management and improves customer loyalty.</b>	Assess how technology adoption impacts customer loyalty and satisfaction.	CRM data analysis, interviews with hotel managers.	CRM usage statistics, customer engagement rates, customer retention trends.	CRM data, hotel technology adoption records, customer interviews.
<b>H6: Cultural and social characteristics of customers influence the effectiveness of loyalty strategies and programs in the hotel sector.</b>	Understand how cultural and social factors impact customer loyalty.	Focus groups and interviews.	Thematic analysis of qualitative data.	Customer interviews, demographic data, hotel management insights.

Source: compiled by the author

### 3.1. Sample Study

For the practical enhancement of customer loyalty and ongoing monitoring of the effectiveness of the utilisation of a particular loyalty program for the hotel, the following methodologies are also employed:

- Launching a pilot loyalty program in the hotel and monitoring its progress
- Analysis of the data obtained through observation - before, during, and after the program launch, using the Look-alike analysis approach. This is often represented graphically as a cohort analysis chart for better visualisation of statistical data.

The control group consisted of Jin Jiang International hotels. Hotels located in downtown Shanghai were selected, all of which are part of a unified system for the convenience of research. These include the *New Asia Hotel*, *Peace Hotel*, *Metropol Hotel*, *Okura Garden*, *Jinjiang Hotel*, and *Park Hotel*. Parameters were chosen to encompass economic segmentation, social influencing factors, and environmental and political operating conditions of the researched entities, taking into account data discrepancies, statistical errors, and data loss during the research process. Additionally, the primary timeframe chosen for the study covers approximately 10 years to accurately reflect the processes that occurred (and are ongoing) in the hotels after the launch of loyalty programs. During the research, data from questionnaires, completed surveys during the implementation of the loyalty program, booking quantities, retentions, rewards, as well as the level of investment activity and calculation based on these indicators of loyalty measurement data, were analysed.

The primary element aiding in understanding customers' attitudes towards the hotel from the questionnaires and determining the correct development direction appears through the following stage of research, involving the calculation of the NPS - a customer loyalty index.

The classic formula for calculating NPS is as follows:

$$\text{NPS} = \% \text{ promoters} - \% \text{ detractors (1)}$$

The data in the table were based on information from anonymous questionnaires distributed electronically to hotel customers, who provided their survey responses at various hotels. Based on the collected information, the following table was compiled. It aids in computing an approximate NPS level, serving for further calculations. After conducting statistical analysis and incorporating the key (critical) data into the table in a condensed format, conclusions can be drawn based on the calculated coefficient. The correctness of applying business tools to

enhance customer loyalty and, consequently, measuring and qualitatively analysing the effectiveness level resulting from loyalty policy implementation is associated with the increasing NPS indicator.

The study involves several key departments to ensure a comprehensive analysis and monitoring of the effectiveness of the loyalty program. The main departments include marketing, sales, customer service, finance, information technology (IT) and analytics, as well as operations. Each of these departments played a crucial role in data collection, customer behaviour analysis, and the evaluation of the financial outcomes of the program, thereby providing a complete picture of the loyalty program's effectiveness and enabling the development of strategies for its improvement.

### 3.2. Intervention

Furthermore, the research methodology takes into consideration the influence of external and internal factors on the utilisation of loyalty programs (World Economic Forum, 2022; World Health Organisation, 2022). These factors are analysed using methodologies such as:

- Porter's Five Forces (*Threat of New Entrants, Buyer Power, Supplier Power, Threat of Substitute Products or Services, Rivalry Among Existing Competitors*).
- Calculation of Key Performance Indicators (KPIs).
- Aggregation of values from the *NPS* and *CSAT*:

$$CSAT = \left( \frac{\text{Number of satisfied customers}}{\text{Total number of surveyed customers}} \right) * 100 \quad (2)$$

Customers typically evaluate their satisfaction with the hotel on a scale from 1 to 5 or from 1 to 10, repeat bookings (which reflects how often customers return to the hotel), length of stay (which may be important as it reflects how much guests enjoy their stay at the hotel), percentage of booking cancellations (which may indicate the level of dissatisfaction or changes in customers' plans).

$$\text{Percentage of repeat bookings} = \left( \frac{\text{Number of repeat bookings}}{\text{Total number of bookings}} \right) * 100 \quad (3)$$

$$\text{Average length of stay} = \frac{\text{Total length of stay of all guests}}{\text{Total number of guests}} \quad (4)$$

$$\text{Percentage of booking cancellations} = \left( \frac{\text{Number of cancelled bookings}}{\text{Total number of bookings}} \right) * 100 \quad (5)$$

- ROI is calculated as the primary internal influencing factor:

$$ROI = \frac{\text{Investment costs}}{\text{Profit from investment}} \times 100 \quad (6)$$

This indicator is one of the direct factors influencing the hotel's operations, both economically (the potential for financial development) and socially (increased provision of services, enhanced popularity, and maintaining loyalty). Consequently, such close interaction between the economic indicator and the social aspect underscores their inseparability. With an increasing economic indicator such as ROI, the probability of a positive social (including reputational) indicator also increases.

### 3.3. Statistical Analysis

Measurement of loyalty is also possible using indices such as:

- *LTV (lifetimevalue)* or *CLV (CustomerLifetimeValue)*.

$$CLV = \text{Average Purchase Value} \times \text{Number of Purchases per Year} \times \text{Average Customer Lifespan (in years)} \quad (7)$$

- Churn Rate indicator:

$$\text{Churn} = \frac{\text{number of lost clients for a period of time}}{\text{number of clients for the time period}} \times 100\% \quad (8)$$

The normal standard for this indicator is approximately 5-7% (for SaaS). It represents the percentage of customers who cease using a company's services.

- Retention rate, which is the opposite of churn, is measured. This indicator should exceed zero, and an optimal value is considered to be 5% or higher. Here, ROI is also taken into account.

$$\text{Retention} = \frac{\text{number of active clients in the end of the period} - \text{number of new clients during the period}}{\text{number of active clients in the beginning of the period}} \times 100\% \quad (9)$$

$$\text{Redemption rate} = \frac{\text{number of points spent in a given period of time}}{\text{number of points issued in a given period of time}} \times 100\% \quad (10)$$

Next, there is a gradual statistical calculation of indicators during the hotel's operation in the process of interacting with the customer into a separate table, which, in turn, may have final values. These indicators include *Average Order Value (AOV)*, *Purchase Frequency*, *Profitability per Order*, *Repeat Purchase Profitability*, and *Loyal Customer Rate*.

### 3.4. Look alike analysis

The look-alike analysis is a critical stage in measuring customer loyalty, enabling the identification of trends, patterns, and similarities among customers or hotel segments. This method is particularly useful for evaluating the effectiveness of loyalty programs and targeting strategies by comparing customer behaviours, preferences, and responses. Look-alike analysis aims to identify similarities between customer segments, allowing hotels to predict behaviour, improve targeting, and personalise services. By observing patterns before, during, and after launching a pilot loyalty program, hotels can determine which factors most influence customer loyalty.

#### **Implementation:**

1. *Data Collection:* Data for look-alike analysis is obtained from questionnaires, surveys, booking histories, repeat bookings, and customer feedback. Observational data is gathered over three phases: pre-program, implementation, and post-program launch.
2. *Cohort Analysis:* This approach groups customers based on shared characteristics, such as booking behaviour, demographics, or loyalty program engagement. Data is visualised using cohort charts to highlight customer retention rates and repeat booking trends over time.
3. *Control Group:* Hotels under study include Jin Jiang International properties in Shanghai (e.g., Peace Hotel, Jinjiang Hotel). Using similar economic and operational conditions, comparisons are drawn between customer segments exposed to the pilot program and those who were not.
4. *Metrics Analysed:* - Repeat Bookings
  - Average Length of Stay
  - Booking Cancellations

◦ *Net Promoter Score (NPS)*

By identifying similar patterns across customer groups, look-alike analysis helps hotels refine loyalty strategies, improve service personalisation, and optimise targeting efforts. Successful programs lead to higher NPS, increased repeat bookings, and improved ROI, reflecting a stronger connection between customer satisfaction and loyalty program effectiveness. The conceptual framework of the study is presented below (Figure 1).

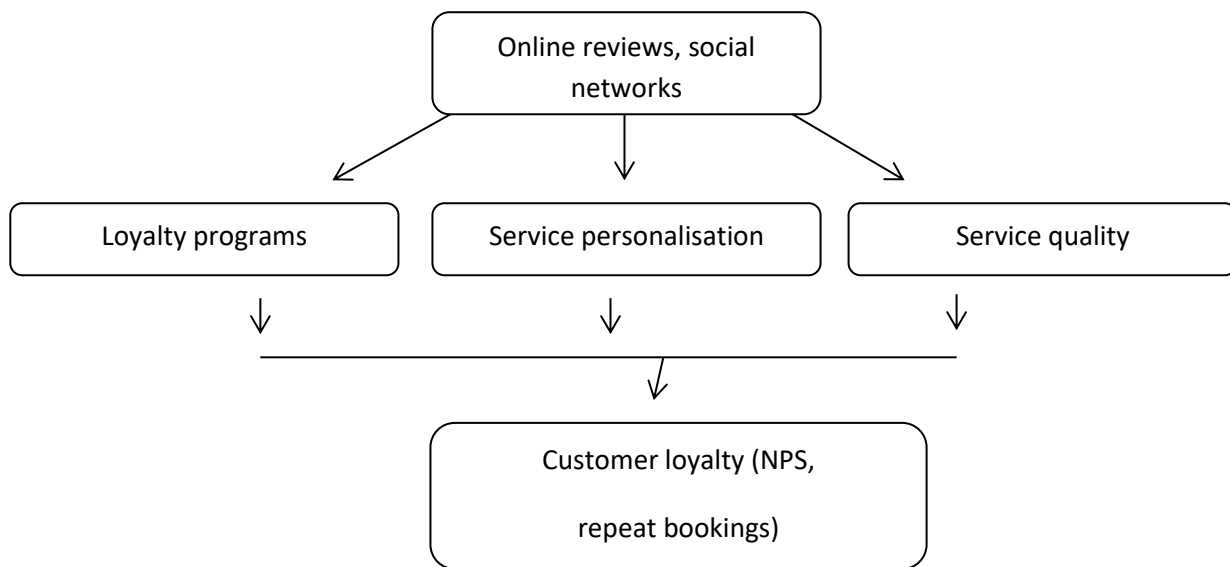


Figure 1. Conceptual Framework of the Study  
Source: compiled by the author

### 3.5. Research Limitations

The study of customer loyalty to the hotel using business metrics is subject to several limitations. Loyalty assessment can be subjective, depending on customers' personal opinions, thereby reducing the accuracy of metrics. Metrics successful in one context may become obsolete with changes in the business environment. Some important factors influencing loyalty may be overlooked in methodology development. Seasonal fluctuations and changes in industry requirements may not be considered, while limited financial resources may restrict the scale of the study. The lack of standardised loyalty assessment methods complicates the comparison of results between different hotels and industry segments.

#### 4. Results

The implementation of the pilot loyalty program involves a testing period based on analytical data from business metrics such as NPS and Look-alike analysis. A comparative analysis of the program's effectiveness was conducted across hotels in the Jin Jiang International network (New Asia Hotel, Peace Hotel, Metropol Hotel, Okura Garden, Jinjiang Hotel, and Park Hotel). The sample includes data on the average check and purchase frequency of both participants and non-participants in the program (Table 2).

Table 2. Launch Programs at Initial Stage

Month since launch	Participants of the program		Non-participants of the program	
	Average check (USD)	Purchase frequency (times)	Average check (USD)	Purchase frequency (times)
Before joining				
0	100	2.5	100	2.5
1	125	3	115	3.2
10	130	3.5	120	3.5
12	140	3.6	125	3.7

Source: compiled by the author

Thus, in the first month since the launch of the hotel loyalty programs, an average of 100 checks were issued, with a purchase frequency of 2.5 for program participants and the same number for non-participants. However, after several months (1, 10, 12), the average number of checks increased (from 125 to 140), as did the purchase frequency (from 3 to 3.6) for program participants compared to those who did not participate in the program (from 115 to 125, and from 3.2 to 3.7, respectively).

The impact of the program was assessed using the NPS, based on a survey of 200 customers. The results of the calculation are presented in table 3.

Table 3. Example Calculation of NPS

NPS Calculation		
% Promoters	%Detractors	NPS
0.125	0.115	0.01
0.1065	0.457	-0.315

0.564	0.456	0.108
0.502	0.321	0.181
0.423	0.325	0.098
0.312	0.112	0.2

Source: compiled by the author

The NPS indicator shows a growing trend, indicating an increase in customer satisfaction following the full implementation of the program.

The percentage data of promoters and detractors obtained during the survey involving 200 respondents visiting the researched hotels indicate that the NPS coefficient increases from 0.01 to 0.108 due to the percentage increase in hotel promoters (0.1065). Subsequently, the indicator sharply decreases in its values (0.098) as a result of the decrease in the number of promoters (0.423), almost halving. Meanwhile, the number of detractors remains constant (around 4%). Only with the full implementation of the loyalty program does the number of consistent promoters balance out to a figure of (0.181), reflecting a more realistic trend over time. In this context, the final NPS indicator (0.2) has increased compared to the initial one in its ultimate value. This fact implies that the business metrics of the study, in connection with the loyalty program used in the hotel, are accurate. According to the data from the tables, the results of the launch program can be visually examined across cohorts (Figure 2).

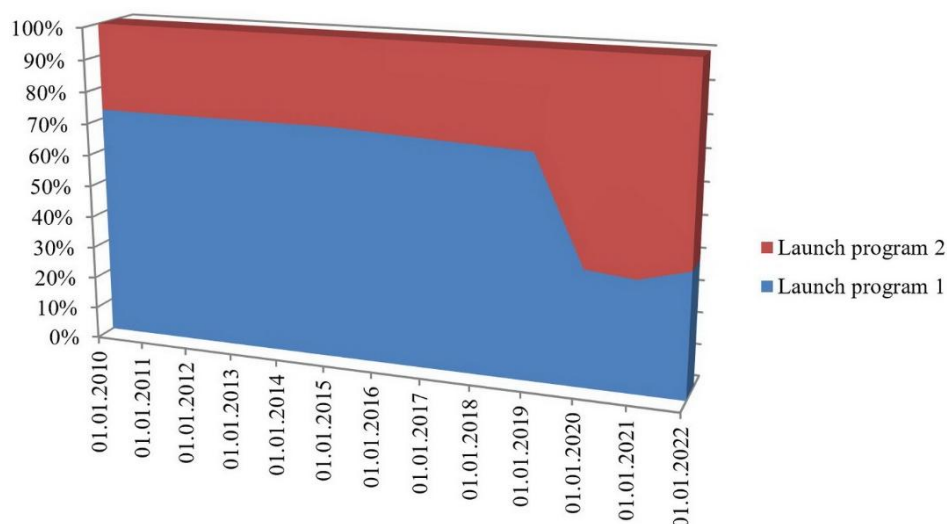


Figure 2. Cohort Analysis

Source: compiled by the author

Based on the provided ranges, it is evident how the dynamics of loyalty program usage among customers have changed over ten years. Despite some decline, there was again a trend towards increased loyalty to the hotel. This fact largely indicates that the loyalty program implemented in the hotel has a positive impact on the growth in measured indicators.

For a comprehensive evaluation, the CSAT coefficient was introduced, reflecting the proportion of satisfied customers (Table 4). This coefficient (CSAT) is calculated by substituting numerical values obtained from survey data into the formula for calculating the coefficient (2).

Table 4. Calculation of Customer Satisfaction Coefficient

<i>CSAT(CustomerSatisfactionScore)</i>	Number of Satisfied Customers (k times)	Total Number of Surveyed Customers (k times)
0.218085106	1.23	5.64
0.176470588	1.02	5.78
0.036392405	0.23	6.32
0.361111111	2.21	6.12
0.392578125	2.01	5.12
0.110955056	0.79	7.12
0.043137255	0.33	7.65
0.287822878	1.56	5.42
0.434210526	1.98	4.56
0.401028278	1.56	3.89
0.389908257	2.55	6.54

Source: compiled by the author

As can be observed from the data presented in the table 4, the number of surveyed customers remained within consistent ranges over time (from 5.64 to 6.54), while the number of satisfied customers gradually increased (from 1.23 to 2.55), despite a slight decline to 0.33, attributed to the impact of the pandemic. Concurrently, the overall CSAT indicator also showed an upward trend (from 0.21 to 0.38), reaching maximum values of 0.4 and a minimum of 0.03. Overall, these results indicate a positive trend resulting from the implementation of the loyalty program. For hotel management, this factor signifies fidelity to the loyalty retention policy. To assess the long-term effect of the program, the proportion of repeat bookings among customers was examined, as per Porter's analysis

Table 5. Calculation of the percentage of repeat bookings and total number of guests

Percentage of repeat bookings	Number of repeat bookings (k times)	Total number of bookings (k times)
0.185483871	0.23	1.24
0.477941176	0.65	1.36
0.292207792	0.45	1.54
0.6	0.87	1.45
0.193939394	0.32	1.65
0.580357143	0.65	1.12
0.186746988	0.31	1.66
0.06741573	0.12	1.78
0.137566138	0.26	1.89
0.202380952	0.34	1.68

Source: compiled by the author

From table 5, it can be observed that the percentage of repeat bookings increases over time (from 0.18 to 0.20), while the total number of bookings also rises (from 1.24 to 1.68) over the investigated period (more than 10 years), resulting in a relatively small quantity of cancelled bookings as a result of this trend. The overall trend shows positive dynamics in customer loyalty retention, as the overall booking percentage consistently demonstrates an increasing trend.

CLV is calculated based on the average check, purchase frequency, and the duration of the customer relationship (Table 6).

Table 6. Duration of Customer Service Usage and Dependence of Metrics on Churn Rate.

CVL (%)	Average Order Value (thousand USD)	Purchases per Year (times)	Average Relationship Length (years)
47.77443	1.65	23.54	1.23
20.80992	2.65	24.54	0.32
191.1402	2.98	65.45	0.98
208.2333	3.56	35.45	1.65
992.5001	4.78	78.65	2.64
997.2221	5.21	64.23	2.98
1570.921	6.21	69.23	3.654
648.3191	7.98	79.65	1.02
189.2602	8.98	82.65	0.255
1635.825	9.65	90.65	1.87

Source: compiled by the author

As seen from table 6, the indicators of the average length of the relationship with the client gradually increase from 1.23 to 1.87, while hotel service purchases increase from 23.54 to 90.65. Consequently, the CVL (%) indicators also increased several times, from 47.7 to 1635.8. The churn rate also increases in terms of percentages, from 0.08 to 0.54; however, this is a small growth percentage compared to the rate of CVL growth. High customer retention rates demonstrate the effectiveness of the program (Table 7).

Table 7. Customer Retention and Reward Utilisation

<i>Redemption Rate</i>	<i>Number of Points Spent</i>	<i>Number of Points Issued</i>	<i>Retention</i>	<i>Active clients in the end period (people)</i>	<i>New clients number(people)</i>	<i>Active clients in the beginning (people)</i>
0.153051643	1.32	2.32	0.56896552	265	102	1065
-6.21212121	2.65	2.65	1	245	1065	132
1.316831683	3.654	3.65	1.00109589	165	32	101
1.061538462	2.65	4.89	0.54192229	123	54	65
1.090909091	3.98	3.65	1.09041096	298	154	132
0.484848485	4.12	2.65	1.55471698	345	265	165
0.494949495	5.98	6.32	0.94620253	201	103	198
1.15625	6.32	5.32	1.18796992	102	65	32
2.916666667	7.98	6.65	1.2	65	30	12
1.357142857	8.654	6.12	1.41405229	165	32	98

Source: compiled by the author

The customer retention rates exhibit various values, fluctuating between their maximum (2.91) and minimum (0.09) values yet maintaining approximately consistent levels ranging from 1.15 to 2.91 (Table 6). Meanwhile, the quantity of rewards fluctuates from 0.56 to 1.41. The findings of this study indicate that it is more advantageous for the hotel to retain its existing customers through retention efforts and reward systems rather than seeking new customers to replace those lost.

Throughout the study, additional recommendations for improving customer loyalty to the hotel were developed through analysis. These include insights into the impact of service personalisation as booking percentages increase and repeat bookings rise accordingly (from 0.1

to 0.2 and from 0.2 to 0.3, respectively). Another recommendation, based on the results, involves the development of effective communication by establishing feedback loops with customers (while maintaining an approximately constant level of 1.3). Additionally, the advancement of the loyalty program in line with the results corresponds to the increasing values of CVL, booking numbers (including repeat bookings), and the number of satisfied customers.

## 5. Discussion

To gain a deeper understanding of the mechanisms for enhancing customer loyalty in the hotel sector, several key factors were identified that may significantly impact guest satisfaction and retention. Considering current trends in the use of advanced technologies, personalised services, loyalty programs, and socio-cultural aspects, a number of hypotheses were formulated:

**Hypothesis 1:** Positive online reviews and social media recommendations significantly increase hotel industry customer loyalty.

The results of sentiment analysis of online reviews and social media showed a strong positive correlation with repeat bookings and improved customer loyalty, supporting this hypothesis. A comparison with previous studies confirms the importance of positive reviews in building customer trust (Chang et al., 2024).

**Hypothesis 2:** Personalised services positively impact customer satisfaction, leading to increased loyalty.

Survey analysis revealed that customers who receive personalised services report higher satisfaction levels, thus supporting this hypothesis. A comparison with literature sources confirms that service personalisation significantly enhances customers' emotional attachment (Chanda et al., 2024).

**Hypothesis 3:** Effective loyalty programs (discounts, privileges) have a direct positive impact on customer retention and repeat bookings.

Analysis of data from CRM systems and loyalty program statistics demonstrated an increase in repeat bookings and a positive trend in customer retention following the implementation of loyalty programs, thus confirming this hypothesis. The data align with findings by scholars who argue that improving the effectiveness of loyalty programs enhances customer retention (Lentz et al., 2022).

**Hypothesis 4:** Service quality, including emotional experiences during the stay, significantly impacts customer loyalty.

Focus group results and surveys conducted in the study showed that customers who receive higher service quality and positive emotional experiences are more likely to return to the hotel or rate their experience highly. This also corresponds to the conclusions of Saura (2019), who found that emotional experiences and service quality are key factors in forming loyalty.

**Hypothesis 5:** The use of modern technologies (mobile apps, CRM tools) improves customer relationship management and enhances loyalty.

Analysis of CRM data and interviews with managers confirmed that technologies improve customer interactions, increase engagement, and enhance loyalty (Ferreira et al., 2024). This is further supported by literature sources, such as Ferreira et al.'s (2021) research, which emphasises the effectiveness of technologies in boosting loyalty levels.

**Hypothesis 6:** Cultural and social characteristics of customers influence the effectiveness of loyalty strategies and programs in the hotel sector.

Results from focus groups and interviews with clients from various cultural and social groups revealed that certain groups are more inclined to participate in loyalty programs, thus supporting this hypothesis. The data align with Thu et al.'s (2021) research, which points out differences in responses to loyalty programs depending on cultural characteristics.

Thus, all six proposed hypotheses are supported by the empirical data obtained.

In the literature on customer loyalty to hotels, scholars discuss methods for assessing guest satisfaction and brand loyalty (Dai et al., 2022). The primary focus is on applying NPS (Gursoy, 2019) and its effectiveness in predicting customer behaviour, as well as the analysis of KPIs such as website conversion rates and average spending (Xiang & Fesenmaier, 2020). Questions regarding the correlation between booking and room occupancy levels with loyalty are elucidated through external and internal processes presented in the study (Buhalis, 2019).

Research also encompasses various models of loyalty programs (Dodds & Butler, 2019), demonstrating their effectiveness in customer retention and stimulating repeat bookings (Fuchs et al., 2021). Methods for analysing churn rates and customer retention strategies are considered in light of the reasons for guest departure and the development of measures to retain them (Gössling et al., 2020). An analysis of online reputation management methods reflects improvements in guest relations according to the business metrics used (Higgins-Desbiolles et

al., 2019). New technologies, such as artificial intelligence and big data analysis, are used for more accurate measurement of customer loyalty and prediction of their behaviour (Yuan et al., 2019). Discussion of these topics in the literature is important for the hotel industry, helping to identify best practices and develop strategies to improve customer experience and increase loyalty to the hotel.

Regarding pilot customer loyalty programs, the first stage involves surveying customers about their likelihood of recommending the company using a scale of 1 to 10 (Xiang et al., 2021). This survey can be conducted using various communication channels, such as email, call centers, or SMS messages, with the option of receiving SMS responses. The second stage involves collecting and registering customer ratings in the system, facilitating the conduct of NPS surveys, and allowing for the customisation of trigger chains depending on the user segment.

To calculate the NPS, the percentage of detractors is subtracted from the percentage of promoters. For example, if 10% of customers are detractors, 20% are neutrals, and 70% are promoters, then the company's NPS will be 60 ( $70 - 10 = 60$ ). A positive NPS value indicates an excess of promoters over detractors and the potential for customer base growth. An NPS of 50 or higher is considered a good result, but it is important to compare it with industry benchmarks and previous periods for a more accurate assessment.

The discussion of customer retention and reward levels in the provided data is a pivotal stage in understanding the effectiveness of hotel strategies and devising measures to enhance guest satisfaction levels (Xiang, 2018). The observed dynamics of customer retention levels ranging from maximal (10.61) to minimal (0.48) values provide insights into how successfully the hotel maintains its customer base. Customer retention values remain relatively stable within the range of 1.5 to 1.3, indicating consistency in the perception of the hotel among guests. The observed influence of varying reward levels, ranging from 0.56 to 1.41, highlights the significant role of reward programs in fostering guest loyalty. Discussing specific factors and bonuses influencing reward levels can uncover key growth opportunities (UNWTO, 2020).

The joint discussion of retention and reward levels aids in determining optimal strategies for creating a balanced and appealing system for guests. Furthermore, the discussion of data can unveil areas requiring improvement; for instance, if a high level of rewards is not accompanied by a high retention rate, it may indicate the need for program reassessment or more effective implementation. Discussing customer retention and reward levels provides a deeper insight into

the dynamics of the hotel's relationship with its customers and can serve as a basis for developing targeted strategies.

## 6. Conclusions

The study has achieved its goal of using tools to foster customer loyalty toward the hotel by systematically analysing current research, theories, and approaches related to guest loyalty in the hospitality industry. Investigating business metrics of customer loyalty to the hotel provides valuable insights for optimising management strategies and enhancing guest satisfaction. A high NPS indicates a positive guest experience leading to increased bookings from current and new customers, as observed during the study. Analysis of KPIs such as website conversion rate and average spending reveals effective marketing efforts and strategies yielding higher profitability.

A high booking percentage is associated with positive experiences and service, underscoring the importance of staff training and adherence to high service standards. Satisfied guests further recommend the hotel to others, contributing to an increase in visitation. The hotel's reputation and positive reviews also influence the growth in the number of guests. Analysing the level and specifics of guest churn helps identify operational issues and improve service quality. Effective loyalty programs incentivise repeat visits, while the introduction of special programs such as discounts and bonuses attracts new customers. All of these factors support sustainable business growth and highlight the key role of measuring customer loyalty business metrics in successful hotel management.

The study faced several limitations. First, the reliance on NPS as a primary metric may not capture the full spectrum of customer loyalty and satisfaction, potentially overlooking qualitative feedback and cultural variations in survey responses. Additionally, the variability in customer behaviour across different market segments and geographic regions limits the generalisability of the findings. The study also lacks a longitudinal perspective to assess the long-term impact of loyalty programs on customer retention and profitability.

Future research should explore the integration of advanced technologies, such as AI-driven analytics and predictive models, to better understand and forecast customer behaviour. Expanding the scope to include diverse cultural and demographic influences on loyalty can provide more comprehensive insights. Furthermore, investigating the effectiveness of loyalty

programs tailored to specific customer groups and examining the impact of dynamic pricing strategies on guest satisfaction would significantly enhance understanding and implementation in the hospitality industry.

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### **Conflict of interests**

The authors declare that they have no conflict of interest.

### **Data availability**

All data generated or analysed during this study are included in this published article.

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