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Perceived Facility Quality and Service Quality as Predictors of Guest Loyalty: The Mediating Role of Guest Satisfaction at Madani Hotel Medan

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ABSTRACT

This study examines whether guests' perceptions of facility and service quality are associated with loyalty directly or through satisfaction at Madani Hotel Medan. Data were obtained from 160 hotel Privilege Card members through a questionnaire distributed via WhatsApp and analysed using descriptive statistics and partial least squares structural equation modelling (PLS-SEM). Mean ratings were high for facility quality (4.50), service quality (4.46), satisfaction (4.44), and loyalty (4.41) on a five-point scale. The structural model, however, revealed differences in how these assessments relate to loyalty. Perceived facility quality was positively associated with both satisfaction ($\beta = 0.352$, $p < 0.001$) and loyalty ($\beta = 0.469$, $p < 0.001$). Perceived service quality was associated with satisfaction ($\beta = 0.348$, $p = 0.002$), but its direct association with loyalty was not statistically significant ($\beta = 0.103$, $p = 0.335$). Satisfaction was positively associated with loyalty ($\beta = 0.233$, $p = 0.003$) and mediated the relationships between facility quality and loyalty ($\beta = 0.082$, $p = 0.023$) and between service quality and loyalty ($\beta = 0.081$, $p = 0.042$). These findings suggest that improvements in service quality may strengthen loyalty chiefly when they translate into greater guest satisfaction, whereas perceived facility quality is associated with loyalty through both direct and satisfaction-mediated pathways.

1. INTRODUCTION

Hotel guests evaluate their stay through more than the service they receive from employees. The condition of guest rooms, cleanliness, functionality of facilities, staff responsiveness, and reliability of service delivery all contribute to their overall experience. These aspects are related but not interchangeable. A hotel may provide comfortable accommodation while struggling to respond promptly to guest requests, or deliver attentive service despite limitations in its physical facilities. Previous hotel research has recognised service quality as a multidimensional construct [1], while expectation-based assessments provide a basis for understanding how guests judge the services they receive [2]. Distinguishing between facility quality and service quality is therefore important when examining their relationships with guest satisfaction and loyalty.

Madani Hotel Medan, located in Medan, North Sumatra, provides a relevant setting for examining these relationships. The hotel's operational records indicate a substantial increase in occupancy between 2021 and 2025. As shown in Table 1, the reported occupancy rate rose from 48% in 2021 to 98% in 2025, exceeding the hotel's occupancy target of 67% in the final year. Although these figures suggest stronger room utilisation, they do not establish whether the increase was accompanied by improvements in guests' evaluations of facilities, service delivery, or their willingness to return.

Table 1. Occupancy Rates and Target Occupancy Rates at Madani Hotel Medan (2021–2025)

No.	Year	Occupancy Rate	Recorded Occupancy Level	Target Occupancy Rate
1	2021	48%	20,030	70%
2	2022	52%	21,040	68%

3	2023	63%	25,076	66%
4	2024	69%	26,322	64%
5	2025	98%	39,393	67%

Source: Front Office, Madani Hotel Medan.

The reported occupancy level increased from 26,322 in 2024 to 39,393 in 2025, representing an increase of 13,071 in the hotel's recorded volume. This growth is relevant to the hotel's operational performance, but occupancy alone provides limited information about guest loyalty. Higher room utilisation may reflect bookings from first-time visitors, group travellers, or returning guests, and the available figures do not distinguish among these categories. Consequently, the increase in occupancy cannot be interpreted as evidence that existing guests have become more satisfied or loyal. Understanding loyalty requires information about individual guests' experiences and their intentions to maintain a relationship with the hotel.

Madani Hotel Medan also operates a Privilege Card membership programme, which provides an additional context for examining its relationship with returning guests. Marketing records list 20 cards for each year between 2009 and 2025, producing a cumulative total of 340 reported cards, as presented in Table 2.

Table 2. Privilege Card Membership Records at Madani Hotel Medan (2009–2025)

No.	Year	Privilege Cards
1	2009	20
2	2010	20
3	2011	20
4	2012	20
5	2013	20
6	2014	20
7	2015	20
8	2016	20
9	2017	20
10	2018	20
11	2019	20
12	2020	20
13	2021	20
14	2022	20
15	2023	20
16	2024	20
17	2025	20
Total		**340**

Source: Marketing Department, Madani Hotel Medan.

The membership programme indicates that the hotel has maintained a mechanism for developing relationships with its guests. Nevertheless, possession of a membership card should not be treated as equivalent to loyalty. A guest may retain membership without consistently choosing the same hotel, while another may repeatedly stay at the property without joining the programme. Loyalty encompasses both behavioural and attitudinal dimensions, including repeated patronage, continued preference, and a willingness to recommend the service to others [3], [4]. The reported membership figures therefore provide a basis for identifying the study population rather than direct evidence of loyal behaviour.

The distinction between loyalty intentions and actual repeat patronage is particularly relevant in hospitality research. Guests may express an intention to revisit or recommend a hotel because they were satisfied with a previous stay, yet their subsequent booking decisions may also depend on room availability, price, travel purpose, and competing accommodation options. Earlier hotel studies have linked satisfaction and hotel image to loyalty-related outcomes [5]. However, evidence synthesised across loyalty research indicates that relationships involving reported intentions are not necessarily equivalent to those involving observed purchasing behaviour [6]. In the present study, guest loyalty is therefore examined through respondents' evaluations rather than independently verified future bookings.

Facility quality represents one aspect of the hotel experience that may contribute to satisfaction and loyalty. Guests interact directly with the physical environment throughout their stay, including the guest room, furniture, bathroom facilities, public areas, and supporting equipment. The condition and functionality of these facilities can influence comfort and the perceived value of accommodation. Research on physical service environments provides a theoretical basis for understanding how surroundings shape customers' evaluations [7]. Hotel servicescape research further indicates that environmental attributes are associated with satisfaction and loyalty-related responses [8]. These findings suggest that physical facilities warrant separate consideration rather than being treated solely as part of employees' service performance.

The relationship between facilities and guest behaviour has also been examined in the Indonesian hotel context. A study involving SP Hotel Batam reported associations between facility-related evaluations and guests' decisions to choose a hotel [9]. Although relevant, the decision to select a property does not necessarily indicate continued patronage after an actual stay. Initial hotel choice and subsequent loyalty involve different stages of the customer relationship. Examining facility quality in relation to both satisfaction and loyalty may therefore provide a more specific account of how guests evaluate their experiences after using hotel services.

Service quality, by comparison, concerns how guests assess the delivery of services, including employee responsiveness, reliability, assurance, and attention to individual needs. These assessments may influence satisfaction without necessarily producing an equally strong relationship with loyalty. A guest may appreciate courteous and efficient service yet continue comparing accommodation alternatives when planning another visit. At Madani Hotel Medan, an earlier study examined service quality and price in relation to customer satisfaction [10]. That evidence is relevant to the present setting, but it does not establish whether service quality is associated with loyalty directly or through satisfaction when facility quality is considered simultaneously.

Evidence from hotel online reviews also demonstrates that guests evaluate multiple aspects of their stay, including tangible facilities and service processes [11]. However, online reviews are shaped by guests' decisions to post their experiences and may not adequately represent the perceptions of an identified membership population. More importantly, evidence of favourable or unfavourable evaluations does not, by itself, explain how different dimensions of hotel quality relate to satisfaction and loyalty within the same analytical model.

The research gap addressed in this study is therefore not simply the limited number of investigations involving Madani Hotel Medan. It concerns the absence, within the literature considered here, of an integrated assessment of perceived facility quality and perceived service quality as distinct correlates of guest loyalty, with guest satisfaction examined as a mediating mechanism among the hotel's Privilege Card members. Existing evidence from the hotel has focused on satisfaction in relation to service quality and price [10], leaving the relative contributions of physical facilities and service delivery to loyalty insufficiently examined. Combining these constructs in one model allows their direct associations with loyalty to be distinguished from associations operating through guest satisfaction.

Against this background, the present study examines the relationships between perceived facility quality, perceived service quality, guest satisfaction, and guest loyalty among 160 surveyed Privilege Card members at Madani Hotel Medan. Using partial least squares structural equation modelling (PLS-SEM), the analysis estimates both direct and satisfaction-mediated relationships. The study contributes property-specific evidence on whether facility quality and service quality exhibit similar or different relationships with loyalty. This distinction is practically relevant because improvements to physical facilities and service delivery involve different operational decisions, while both may shape guests' evaluations of their stay.

2. LITERATURE REVIEW AND HYPOTHESIS DEVELOPMENT

2.1. Theoretical Foundations

2.1.1. Guest Loyalty

Guest loyalty reflects a guest's preference for a particular hotel, willingness to return, and intention to maintain the relationship despite competing accommodation options. Dick and Basu [3] distinguish between attitudinal and behavioural loyalty, while Oliver [4] argues that satisfaction contributes to loyalty development but does not necessarily ensure repeat patronage. In the hotel context, loyalty is associated with satisfaction, hotel image, and guests' overall evaluations of their stay [5], [12]. However, these relationships may vary depending on travel purpose, room availability, price, and alternative accommodation choices [6], [14]. At Madani Hotel Medan, guest loyalty is assessed through four

indicators: intention to revisit, willingness to recommend the hotel, preference over competing properties, and intention to continue choosing the hotel. These indicators capture self-reported loyalty intentions rather than actual repeat-booking behaviour, which may not always correspond with stated intentions [6], [13]. Distinguishing perceived facility quality from perceived service quality therefore allows the study to examine whether these two aspects of the hotel experience are differently associated with guests' loyalty intentions.

2.1.2. Guest Satisfaction

Guest satisfaction reflects guests' post-stay evaluations of how well their hotel experience meets prior expectations. Expectation-disconfirmation theory explains satisfaction through the comparison between expected and perceived performance [15], while perceived value also contributes to guests' overall assessments [16]. In hotel settings, satisfaction is shaped by several aspects of the stay, including room comfort, facility conditions, employee responsiveness, and service reliability. Choi and Chu [17] identified staff service quality, room attributes, and value as relevant determinants of satisfaction, whereas Oh [18] distinguished service quality and perceived value from satisfaction in luxury hotel experiences. Evidence also suggests that satisfaction is associated with loyalty-related evaluations, although the relationship may depend on the nature of service encounters and the attributes guests consider important [19], [20]. At Madani Hotel Medan, guest satisfaction is measured through fulfilment of expectations, evaluation of the stay experience, and overall satisfaction. These indicators capture guests' subjective assessments rather than independently verified service performance [12], [15]. Given that physical facilities and interpersonal services represent distinct components of the accommodation experience, examining their separate relationships with satisfaction provides a basis for understanding how each may contribute to guest loyalty [18], [21].

2.1.3. Perceived Facility Quality

Perceived facility quality refers to guests' evaluations of the condition, cleanliness, functionality, and comfort of a hotel's physical facilities. Unlike service quality, which primarily concerns service delivery and interpersonal interactions, facility quality focuses on the tangible elements guests encounter during their stay. The servicescape framework explains how physical surroundings shape customers' perceptions and evaluations of service experiences [7], while hotel-specific research highlights the importance of assessing different attributes of the physical environment [22]. Facilities that are available but poorly maintained or difficult to use may undermine guest satisfaction, whereas functional and comfortable facilities can contribute to a more favourable stay experience [8]. Although research in restaurant settings also distinguishes physical-environment quality from service quality [23], its findings require careful interpretation in the hotel context. In this study, perceived facility quality is assessed through four aspects: facility completeness, cleanliness, and tidiness; condition and functionality; ease of use; and availability of necessary equipment. These indicators are informed by hotel servicescape research [8], [22] and are used to examine how guests' perceptions of physical facilities relate to satisfaction and loyalty at Madani Hotel Medan.

2.1.4. Perceived Service Quality

Perceived service quality refers to guests' assessments of the reliability, responsiveness, and overall effectiveness of hotel service delivery. While the expectation-based approach evaluates service quality by comparing expected and perceived performance [2], Cronin and Taylor [24] propose a performance-based assessment that focuses on the service actually experienced. The present study adopts the latter approach, recognising that guests may evaluate service delivery differently from the physical facilities available during their stay. Well-maintained rooms, for example, do not necessarily compensate for delayed check-in or unresponsive staff. Service quality is assessed through five SERVQUAL dimensions: tangibles, reliability, responsiveness, assurance, and empathy [25], although their application may require consideration of the specific hotel context [1]. At Madani Hotel Medan, these dimensions are used to examine how perceived service quality relates to guest satisfaction and loyalty. Given that facility quality

is measured separately, the tangible dimension of service quality must be distinguished from the condition and functionality of hotel facilities to minimise conceptual overlap between the two constructs.

2.2. Hypothesis Development

2.2.1. Perceived Facility Quality, Guest Satisfaction, and Guest Loyalty

Physical facilities are central to the accommodation experience because guests depend on them throughout their stay. Room cleanliness, functional equipment, and accessible amenities contribute to the usability and comfort of hotel accommodation. The servicescape perspective suggests that physical surroundings influence customers' evaluations of service experiences [7], while hotel-specific evidence associates environmental attributes with satisfaction and loyalty-related outcomes [8]. Facilities that meet guests' practical needs may therefore contribute to satisfaction by reducing inconvenience and supporting a favourable stay experience.

Facility quality may also be associated with loyalty independently of satisfaction. Guests who perceive a hotel's facilities as comfortable, functional, and dependable may develop a preference for the property when considering future accommodation. The distinction is relevant because the physical environment can remain a recognisable attribute of the hotel even when service encounters differ between visits. Accordingly, facility quality is expected to be positively associated with both satisfaction and loyalty.

H1: *Perceived facility quality is positively associated with guest satisfaction.*

H2: *Perceived facility quality is positively associated with guest loyalty.*

2.2.2. Perceived Service Quality, Guest Satisfaction, and Guest Loyalty

Service quality influences how guests evaluate their interactions with hotel personnel and the delivery of accommodation services. Reliable procedures, prompt responses, and attentive assistance may reduce inconvenience and contribute to a more satisfactory stay. Previous hotel research has identified staff service quality as an important attribute in customer satisfaction [17]. The distinction among service quality, value, and satisfaction further indicates that favourable service assessments may contribute to guests' overall evaluation without being equivalent to satisfaction itself [18].

The relationship between service quality and loyalty is less straightforward. Consistently reliable service may encourage guests to prefer a hotel they know, particularly when alternatives offer comparable facilities or prices. Nevertheless, favourable service encounters do not necessarily secure future bookings because accommodation choices remain subject to competing considerations. Hotel research has examined service quality within satisfaction–loyalty relationships [19], supporting an expectation of a positive association while leaving its magnitude and statistical significance to empirical testing. This distinction is particularly relevant when service quality and facility quality are evaluated simultaneously.

H3: *Perceived service quality is positively associated with guest satisfaction.*

H4: *Perceived service quality is positively associated with guest loyalty.*

2.2.3. Guest Satisfaction and Guest Loyalty

Satisfaction provides an evaluative basis for continued preference because guests who judge their previous stay favourably may be more willing to return or recommend the hotel. However, satisfaction and loyalty remain distinct constructs. Oliver [4] argues that satisfaction supports loyalty development without guaranteeing it, while hotel research has identified associations between satisfaction and loyalty-related evaluations [12]. A positive stay experience may therefore encourage future preference, even though actual repeat booking decisions can be influenced by factors beyond satisfaction.

For Madani Hotel Medan, satisfaction represents guests' overall assessment of their accommodation experience. Its expected relationship with loyalty concerns whether guests reporting greater satisfaction also express stronger intentions to revisit, recommend, and continue choosing the property.

H5: *Guest satisfaction is positively associated with guest loyalty.*

2.2.4. The Mediating Role of Guest Satisfaction

The distinction between perceived quality and satisfaction provides a basis for examining indirect relationships with loyalty. Facility quality and service quality represent evaluations of different attributes

of the hotel experience, whereas satisfaction captures guests' broader post-stay assessment. These constructs may therefore be related through an evaluative sequence in which perceptions of hotel quality are associated with satisfaction, which in turn is associated with loyalty. Previous hospitality research has examined connections among environmental attributes, satisfaction, and loyalty-related responses [8], [19].

For facility quality, satisfaction may account for part of the relationship with loyalty because comfortable and functional facilities contribute to guests' overall evaluation of their stay. A direct relationship may nevertheless remain when guests develop preferences for particular physical attributes of the property. For service quality, satisfaction may be particularly relevant because positive interactions and reliable service can improve the overall experience without necessarily establishing a direct preference for future accommodation. The two quality dimensions may consequently exhibit different patterns of direct and indirect associations.

The mediation hypotheses allow these possibilities to be evaluated rather than presuming that facility quality and service quality influence loyalty through identical processes. Given the cross-sectional survey design, mediation is interpreted as an indirect statistical association consistent with the proposed theoretical model, not as definitive evidence of a causal sequence.

H6: *Guest satisfaction mediates the association between perceived facility quality and guest loyalty.*

H7: *Guest satisfaction mediates the association between perceived service quality and guest loyalty.*

3. METHOD

3.1. Research Design and Context

This study employed a cross-sectional quantitative design to examine the relationships among perceived facility quality, perceived service quality, guest satisfaction, and guest loyalty at Madani Hotel Medan, North Sumatra, Indonesia. The unit of analysis was the individual hotel guest. Data were collected from 160 Privilege Card members through a structured questionnaire distributed via WhatsApp. Descriptive statistics were used to summarise respondents' characteristics and perceptions, while partial least squares structural equation modelling (PLS-SEM) was applied to estimate the proposed direct and indirect relationships. As all variables were measured simultaneously using self-reported data, the estimated relationships were interpreted as statistical associations rather than evidence of causality [26].

3.2. Population, Sample, and Data Collection

The target population comprised Madani Hotel Medan Privilege Card members who had stayed at the property more than five times. According to hotel marketing records, 20 privilege cards were reported annually between 2009 and 2025, yielding a cumulative total of 340 cards. However, this administrative figure does not necessarily represent the number of active and unique members at the time of data collection. Purposive sampling was employed to recruit respondents who reported meeting both eligibility criteria: holding a Privilege Card and having completed more than five stays. A total of 160 eligible responses were included in the analysis. Sample adequacy was considered in relation to the structural model and statistical power rather than relying solely on the conventional ten-times rule, which may provide an inadequate basis for determining sample requirements in PLS-SEM [27], [28].

3.3. Research Instrument and Measurement

Data were collected using a structured, closed-ended questionnaire covering four constructs: perceived facility quality, perceived service quality, guest satisfaction, and guest loyalty. The measurement model comprised 32 items, including eight facility-quality items, ten service-quality items, six satisfaction items, and eight loyalty items. The conceptualisation of service quality drew on SERVQUAL, while the remaining constructs were informed by relevant hospitality and loyalty literature [3], [25]. Responses were recorded on a five-point Likert agreement scale, ranging from 1 (*strongly disagree*) to 5 (*strongly agree*), as presented in Table 5. Higher scores indicated more favourable perceptions of the respective constructs.

Table 3. Five-Point Likert Response Scale

Response option	Score
Strongly Agree	5
Agree	4

Neutral	3
Disagree	2
Strongly Disagree	1

Source: Research questionnaire.

3.4. Data Analysis

The data were screened, coded, and tabulated before analysis. Descriptive statistics were used to characterise the respondents and summarise their assessments of the four constructs. The hypothesised relationships were subsequently examined using PLS-SEM in SmartPLS, with separate assessments of the measurement and structural models [27], [28].

3.4.1. Descriptive Analysis

Respondent characteristics were summarised using frequencies and percentages, while construct ratings were examined through means and standard deviations. The mean score for each item was calculated as:

$$\bar{X} = \frac{\sum(f_i \times W_o)}{\sum f}$$

where f_i denotes the frequency of responses in category i and w_i represents its corresponding Likert score. The Respondent Achievement Level (*Tingkat Capaian Responden*, TCR) was calculated by dividing the observed mean by the maximum possible score and multiplying by 100:

TCR (%) = (Mean / 5) × 100

The resulting mean scores were classified using equal-width intervals, as shown in Table 15. These categories were used to describe respondents' evaluations and were not treated as inferential evidence of differences or relationships among constructs.

Table 4. Mean Score Intervals and Descriptive Categories

No.	Mean score interval	Category
1	4.21–5.00	Very Good
2	3.41–4.20	Good
3	2.61–3.40	Fair
4	1.81–2.60	Poor
5	1.00–1.80	Very Poor

Source: Equal-width intervals derived from the five-point response scale.

3.4.2. PLS-SEM Analysis

Partial least squares structural equation modelling (PLS-SEM) was performed using SmartPLS to assess the measurement model and estimate the hypothesised relationships [27], [28]. The reflective measurement model was evaluated through indicator loadings, Cronbach's alpha, composite reliability, and average variance extracted (AVE) to establish indicator reliability, internal consistency, and convergent validity, while discriminant validity was examined using the heterotrait–monotrait ratio (HTMT) [29], [30]. The structural model was assessed using the coefficient of determination (R^2) to estimate the explained variance in guest satisfaction and loyalty, followed by bootstrapping to evaluate the magnitude and statistical significance of the direct and indirect path coefficients. Hypothesis testing employed a two-sided significance threshold of 0.05. The mediating role of guest satisfaction was examined through the specific indirect effects linking perceived facility quality and perceived service quality to guest loyalty, with mediation assessed directly through bootstrapping rather than inferred from the significance of individual paths [31], [32].

4. RESULTS

4.1. Respondent Characteristics

The study included 160 Privilege Card members of Madani Hotel Medan. As presented in Tables 16–19, female respondents accounted for 70.63% of the sample (n = 113), while male respondents represented 29.38% (n = 47). Most participants were aged 19–28 years (75.63%), followed by those aged 29–38 years (13.75%), 39–48 years (7.50%), and 49–58 years (3.13%). Students constituted the largest occupational group (31.25%), followed by entrepreneurs or self-employed respondents (23.13%) and private-sector

employees (20.63%). Regarding income, 63.75% reported earning less than IDR 5 million per month, while 27.50% earned between IDR 5 million and IDR 9.99 million. The sample was therefore concentrated among younger respondents, students, and individuals in the lower reported income categories. This composition is relevant when interpreting the findings, as the results primarily reflect the perceptions of the surveyed membership group rather than the hotel's entire guest population.

Table 5. Respondent Characteristics by Gender

Gender	Frequency	Percentage
Male	47	29.38%
Female	113	70.63%
Total	160	100%

Table 6. Respondent Characteristics by Age

Age (years)	Frequency	Percentage
19–28	121	75.63%
29–38	22	13.75%
39–48	12	7.50%
49–58	5	3.13%
59 and above	0	0.00%
Total	160	100%

Table 7. Respondent Characteristics by Occupation

Occupation	Frequency	Percentage
Entrepreneur/Self-employed	37	23.13%
Student	50	31.25%
Private-sector employee	33	20.63%
Civil servant/Police/Military	15	9.38%
Unemployed	5	3.13%
Other	20	12.50%
Total	160	100%

Table 8. Respondent Characteristics by Monthly Income

Monthly income	Frequency	Percentage
Below IDR 5,000,000	102	63.75%
IDR 5,000,000–9,999,999	44	27.50%
IDR 10,000,000–14,999,999	12	7.50%
IDR 15,000,000–19,999,999	0	0.00%
Above IDR 20,000,000	2	1.25%
Total	160	100%

Source: Research data, 2026. Minor differences in percentage totals may result from rounding.

4.2. Descriptive Analysis of Research Variables

Descriptive analysis showed consistently favourable assessments across the four constructs. Perceived facility quality recorded the highest mean score (4.50), with ease of facility use and equipment completeness receiving the highest indicator ratings (4.52 each). Perceived service quality followed with a mean of 4.46, and responsiveness was its highest-rated attribute (4.50). Guest satisfaction and guest loyalty recorded mean scores of 4.44 and 4.41, respectively. All four constructs fell within the study's predefined "very good" category on the five-point response scale. Although these ratings indicate favourable perceptions among surveyed members, the relatively small differences between construct means do not establish statistically significant differences. The subsequent PLS-SEM analysis examined whether these positive assessments were associated with satisfaction and loyalty in the hypothesised structural model.

4.3. Measurement Model Assessment

The reflective measurement model was evaluated through indicator reliability, internal consistency, convergent validity, and discriminant validity. These assessments were conducted before interpreting the relationships among the latent constructs.

4.3.1. Indicator Reliability and Convergent Validity

As reported in Table 9, all 32 indicators had outer loadings above 0.70, ranging from 0.703 to 0.804. Perceived facility quality recorded loadings between 0.704 and 0.804, while the service-quality indicators ranged from 0.708 to 0.789. Guest satisfaction and loyalty also met the loading criterion, with values ranging from 0.703 to 0.738 and from 0.710 to 0.757, respectively. These results indicate that the retained indicators contributed adequately to their assigned reflective constructs. Nevertheless, the assessment of convergent validity also requires consideration of average variance extracted (AVE), rather than relying on loadings alone [27], [30].

Table 9. Outer Loading Results

Construct	Indicator	Outer loading
Guest Satisfaction	M01	0.703
	M02	0.728
	M03	0.738
	M04	0.721
	M05	0.721
	M06	0.715
Perceived Facility Quality	X1.01	0.734
	X1.02	0.704
	X1.03	0.771
	X1.04	0.799
	X1.05	0.757
	X1.06	0.719
	X1.07	0.783
	X1.08	0.804
Perceived Service Quality	X2.01	0.789
	X2.02	0.742
	X2.03	0.708
	X2.04	0.727
	X2.05	0.725
	X2.06	0.742
	X2.07	0.754
	X2.08	0.736
	X2.09	0.716
	X2.10	0.720
Guest Loyalty	Y01	0.754
	Y02	0.730
	Y03	0.710
	Y04	0.735
	Y05	0.743
	Y06	0.757
	Y07	0.711
	Y08	0.757

Source: Research data processed using SmartPLS, 2026.

4.3.2. Internal Consistency and Convergent Validity

The reliability estimates in Table 10 indicate satisfactory internal consistency across all four constructs. Cronbach's alpha ranged from 0.816 for guest satisfaction to 0.906 for perceived service quality, while composite reliability (ρc) ranged from 0.867 to 0.922. All values exceeded the commonly applied threshold of 0.70. AVE values ranged from 0.520 to 0.577, indicating that each construct explained more than half

of the variance in its indicators on average. Taken together, these results support the internal consistency and convergent validity of the specified measurement model [28], [29].

Table 10. Construct Reliability and Convergent Validity

Construct	Cronbach's α	ρa	ρc	AVE
Guest Satisfaction	0.816	0.817	0.867	0.520
Perceived Facility Quality	0.895	0.896	0.916	0.577
Perceived Service Quality	0.906	0.908	0.922	0.542
Guest Loyalty	0.880	0.881	0.905	0.544

Source: Research data processed using SmartPLS, 2026.

4.3.3. Discriminant Validity

Discriminant validity was assessed using the heterotrait–monotrait ratio (HTMT). As shown in Table 30, the coefficients ranged from 0.659 to 0.825, remaining below the adopted threshold of 0.85. The highest value occurred between perceived facility quality and perceived service quality (HTMT = 0.825), suggesting that these constructs were more closely related than the other construct pairs. Although the result satisfies the specified criterion, it warrants attention because both constructs involve aspects of the hotel experience that guests may evaluate together. The reported HTMT values support discriminant validity under the adopted threshold, although bootstrap confidence intervals were unavailable for further assessment [30].

Table 11. Discriminant Validity Assessment Using HTMT

Construct	GS	PFQ	PSQ	GL
Guest Satisfaction (GS)	—			
Perceived Facility Quality (PFQ)	0.712	—		
Perceived Service Quality (PSQ)	0.705	0.825	—	
Guest Loyalty (GL)	0.684	0.771	0.659	—

Source: Research data processed using SmartPLS, 2026.

4.4. Structural Model Assessment

The structural model was assessed through the coefficient of determination (R^2) and the estimated relationships among the four constructs. Perceived facility quality and perceived service quality jointly explained 42.8% of the variance in guest satisfaction ($R^2 = 0.428$). For guest loyalty, the model explained 52.0% of the variance ($R^2 = 0.520$), with facility quality, service quality, and satisfaction included as predictors. These values indicate the explanatory capacity of the specified model within the surveyed sample, while the remaining variance reflects factors not captured by the included predictors and unexplained variation. The estimated paths were subsequently examined using bootstrapping to determine their direction and statistical significance.

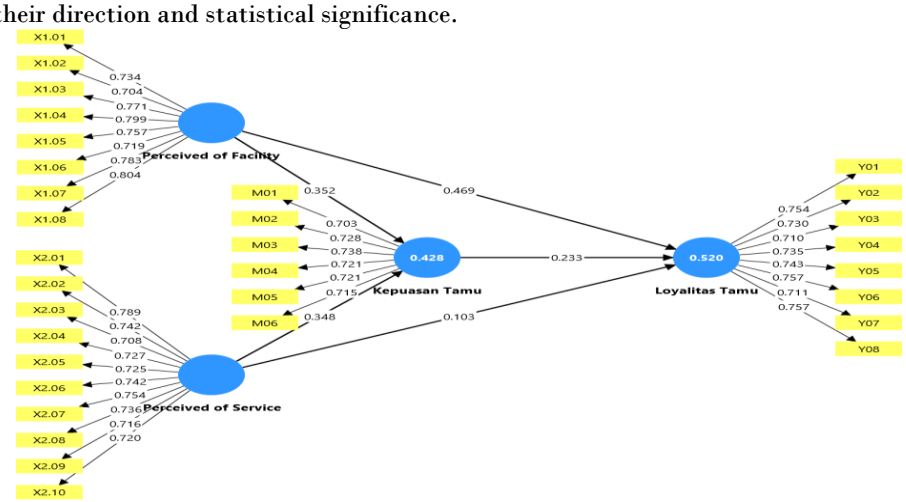


Figure 1. Structural model

4.5. Hypothesis Testing

Bootstrapping results for the five direct relationships and two specific indirect relationships are presented in Table 33. Six of the seven hypothesised paths were statistically significant at the 5% level. Perceived facility quality was positively associated with guest satisfaction ($\beta = 0.352$, $p < 0.001$) and guest loyalty ($\beta = 0.469$, $p < 0.001$), supporting H1 and H2. Perceived service quality was also positively associated with satisfaction ($\beta = 0.348$, $p = 0.002$), supporting H3. However, its direct association with loyalty was small and statistically non-significant ($\beta = 0.103$, $p = 0.335$); H4 was therefore not supported. Guest satisfaction showed a positive association with loyalty ($\beta = 0.233$, $p = 0.003$), supporting H5.
The indirect-effect estimates revealed statistically significant satisfaction-mediated relationships for both quality dimensions. Perceived facility quality was indirectly associated with loyalty through satisfaction ($\beta = 0.082$, $p = 0.023$), supporting H6. A comparable indirect association was found for perceived service quality ($\beta = 0.081$, $p = 0.042$), supporting H7. The distinction lies in the direct paths: facility quality retained a significant direct association with loyalty, whereas service quality did not. Thus, the results indicate different patterns of direct and satisfaction-mediated relationships for the two dimensions of perceived hotel quality, rather than a uniform association with guest loyalty.

Table 12. Direct and Indirect Path Coefficients

Hypothesis	Relationship	β	SD	t-value	p-value	Decision
H1	PFQ → GS	0.352	0.095	3.713	<0.001	Supported
H2	PFQ → GL	0.469	0.079	5.905	<0.001	Supported
H3	PSQ → GS	0.348	0.111	3.120	0.002	Supported
H4	PSQ → GL	0.103	0.107	0.965	0.335	Not supported
H5	GS → GL	0.233	0.078	2.997	0.003	Supported
H6	PFQ → GS → GL	0.082	0.036	2.281	0.023	Supported
H7	PSQ → GS → GL	0.081	0.040	2.030	0.042	Supported

Note. PFQ = Perceived Facility Quality; PSQ = Perceived Service Quality; GS = Guest Satisfaction; GL = Guest Loyalty; β = standardised path coefficient; SD = bootstrap standard deviation. Statistical significance was assessed using two-sided tests at α = 0.05. Source: Research data processed using SmartPLS, 2026.

5. DISCUSSION

Perceived facility quality emerged as an important correlate of both guest satisfaction and loyalty. Its positive association with satisfaction ($\beta = .352$, $p < .001$) was accompanied by the largest estimated direct coefficient for loyalty ($\beta = .469$, $p < .001$). Respondents also rated facility quality favourably, with a mean score of 4.50 on a five-point scale. Viewed through the servicescape perspective, these findings suggest that the physical environment is not simply a supporting component of hotel operations but an integral part of how guests evaluate their accommodation experience [7]. Unlike individual service encounters, which may vary across employees and situations, the condition and functionality of hotel facilities are experienced throughout a guest's stay. Such tangible attributes may remain salient when guests consider returning, even after their overall satisfaction is taken into account. This interpretation accords with previous hospitality research associating physical-environment perceptions with satisfaction and loyalty-related responses [8]. Nevertheless, the larger coefficient for facility quality does not, by itself, establish its statistical superiority over other predictors or demonstrate that facility improvements would increase actual repeat visits.

A different relationship was observed for perceived service quality. Although service quality was positively associated with satisfaction ($\beta = .348$, $p = .002$), its direct association with loyalty was not statistically significant ($\beta = .103$, $p = .335$). The relatively high mean service-quality rating of 4.46 indicates that respondents generally viewed the hotel's service favourably, yet this evaluation did not translate into a statistically detectable independent relationship with loyalty once the other constructs were included in the model. One plausible explanation is that guests assess service encounters as part of their overall accommodation experience, rather than using individual interactions as separate reasons for returning. Service responsiveness, assistance, and problem resolution may contribute to satisfaction without necessarily becoming decisive considerations in subsequent hotel choices. Previous hospitality studies have examined service quality and loyalty through intervening customer evaluations [19], while research on hotel service attributes has documented their association with satisfaction [21]. The present findings therefore challenge a simple interpretation in which better perceived service quality necessarily corresponds to greater loyalty independently of satisfaction. They do not, however, establish that service quality is irrelevant to guest retention.

Guest satisfaction itself was positively associated with loyalty (β = .233, p = .003), reinforcing its relevance to respondents' reported loyalty intentions. This relationship is consistent with hotel research linking satisfaction to favourable behavioural responses [5], [12]. However, the model indicates that satisfaction does not account for the associations of facility quality and service quality with loyalty in the same way. Facility quality retained a significant direct association with loyalty after satisfaction was included, whereas service quality did not. This contrast suggests that tangible aspects of the accommodation experience and evaluations of service delivery may relate differently to guests' loyalty-related assessments. For facility quality, the physical attributes of the hotel may remain relevant to future preferences beyond their contribution to an overall satisfactory stay. For service quality, the relationship with loyalty appears more closely connected to how guests evaluate their overall experience. These explanations remain tentative because the analysis did not directly examine the cognitive processes underlying guests' intentions.

The indirect-effect results provide further insight into these contrasting patterns. Facility quality had a significant positive indirect association with loyalty through satisfaction (β = .082, p = .023), while its direct association remained positive and significant. This pattern is consistent with complementary partial mediation in the specified statistical model. Service quality also showed a significant indirect association through satisfaction (β = .081, p = .042), despite its non-significant direct coefficient. The latter pattern is consistent with indirect-only mediation [31], [32]. Although the estimated indirect coefficients were similar in magnitude, the corresponding direct relationships differed considerably. This is a meaningful distinction: satisfaction was associated with loyalty in both pathways, but facility quality retained an additional direct association that was not statistically established for service quality. The results should nevertheless be interpreted as statistical mediation patterns rather than evidence of causal transmission, particularly because all constructs were measured at the same time.

These differences have practical implications for evaluating hotel performance. Facility maintenance and service improvement should not be assessed solely through a single overall satisfaction indicator. The relatively strong direct association between facility quality and loyalty suggests that managers should examine whether guests' evaluations of room conditions, comfort, and amenity functionality remain favourable alongside their stated intentions to return. For service delivery, the indirect association through satisfaction points to the importance of understanding how guests incorporate service encounters into their overall assessment of the stay. Guest-feedback instruments could therefore distinguish evaluations of physical facilities, individual service experiences, overall satisfaction, and intentions to revisit. Such an approach would help identify areas requiring managerial attention without assuming that an improvement in one indicator will necessarily produce a corresponding increase in repeat bookings.

The findings also need to be considered within the limitations of the research design. The cross-sectional data do not establish whether facility and service evaluations preceded satisfaction or loyalty, and the use of self-reported measures may have contributed to the observed associations. Moreover, reported loyalty cannot be treated as equivalent to verified repeat-stay behaviour. The study therefore provides evidence of distinct relationships among perceived facility quality, perceived service quality, satisfaction, and loyalty within the estimated model, rather than confirmation of a causal sequence. Research following guests across successive stays, preferably incorporating actual booking records, would help determine whether these statistical relationships extend to subsequent behaviour. Particular attention should be given to whether facility quality continues to show a direct relationship with repeat visits and whether satisfaction remains the principal statistical pathway linking perceived service quality to loyalty.

6. CONCLUSION

At Madani Hotel Medan, perceived facility quality and service quality show different patterns of association with guest loyalty. Facility quality is positively associated with loyalty both directly and through guest satisfaction, whereas service quality is associated with loyalty only through satisfaction, with no statistically significant direct relationship. This distinction suggests that guests' assessments of the hotel's physical facilities are more directly related to their continued preference for the property, while favourable service experiences are associated with loyalty primarily when accompanied by greater satisfaction. For hotel management, maintaining clean, functional, and comfortable facilities should remain a priority, alongside improving service responsiveness and reliability in ways that address guests' expectations. The findings also indicate that satisfaction plays a different mediating role across the two quality dimensions, challenging the assumption that favourable facility and service evaluations are equally associated with loyalty. Nevertheless, the single-hotel setting, cross-sectional design, and reliance

on self-reported responses from Privilege Card members limit causal interpretation and generalisability. Future research incorporating actual booking records and multiple hotel settings could establish whether these relationships extend to observed repeat patronage.

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Author Contributions

The individual contributions of Paddila and Azmen Kahar to the study's conceptualisation, methodology, data collection, analysis, manuscript preparation, and revision should be confirmed by both authors before submission. The final contribution statement should reflect their actual responsibilities.

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Data Availability

The availability of the survey data supporting the findings of this study is subject to confirmation by the corresponding author. Any permitted data sharing should involve de-identified records and comply with participant confidentiality requirements and applicable institutional or hotel data-access restrictions.

Ethical Approval / Research Permission

The study involved a questionnaire survey of Privilege Card members at Madani Hotel Medan. Formal institutional ethical approval, exemption, or research permission details were not documented in the materials reviewed. The authors should confirm the applicable approval or exemption status and provide the issuing institution, reference number, and date where available.

Informed Consent

Data were collected through an online questionnaire distributed via WhatsApp. The procedures used to inform participants about the study and obtain their voluntary consent should be verified against the original questionnaire and data collection records before submission.

Conflict of Interest

The authors declare no competing interests.

Artificial Intelligence Use

ChatGPT (OpenAI) was used to assist with language editing, proofreading, manuscript restructuring, and drafting revised sections of the manuscript. The authors remain responsible for verifying the accuracy of the research data, statistical analyses, references, interpretations, ethical statements, and originality of the final manuscript. All scientific conclusions and the decision to submit the manuscript remain the responsibility of the authors.

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