



## Do hotel facilities matter for the customer? Analyzing the impact of risk perception toward guest satisfaction mediated by accommodation attributes in the hospitality industry

 Noveri Maulana

Department of Management Science, PPM School of Management (Sekolah Tinggi Manajemen PPM) Jakarta, Indonesia.  
Email: [nvr@ppm-manajemen.ac.id](mailto:nvr@ppm-manajemen.ac.id)



### ABSTRACT

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#### Keywords

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This study aims to analyze the relationship between risk perception variables and guest satisfaction mediated by hotel attributes in the hospitality industry in Indonesia. Previous studies argued that guest preference toward hotel attributes can mediate the impact of risk perception toward guest satisfaction when staying at an accommodation. However, some other findings contrast this argument. This study aims to contribute to these theoretical debates among the scholars. As a quantitative study, data were collected through a field survey of 568 foreign and domestic tourists in major tourist destinations in Indonesia. The SEM-PLS with bootstrapping analysis for mediation effect was applied in the study. The result reveals that financial risk does not directly influence guest satisfaction but significantly affects hotel attribute preferences. Health risk similarly impacts hotel attribute preferences positively without directly affecting guest satisfaction. Conversely, psychosocial risk exhibits a strong negative effect on guest satisfaction and hotel attributes. The positive relationship between hotel attributes and guest satisfaction reaffirms the critical role of service quality and physical attributes in driver satisfaction. Mediation analysis indicates that hotel attributes significantly mediate the effects of risk factors on guest satisfaction. The study concludes that enhancing hotel attributes, addressing psychosocial concerns, and investing in health-related features are pivotal strategies for hotel management to boost guest satisfaction, particularly during periods of heightened financial and health risks. These findings offer valuable insights for hotel managers to navigate challenging times and maintain high levels of guest satisfaction, fostering loyalty and positive word-of-mouth among the tourists.

**Contribution/Originality:** This study contributes to the debate of the role of hotel attribute preference in the context of accommodation selection in the post-pandemic era. The novelty offers that hotel attribute preferences play a pivotal role as a mediating variable in the relationship of risk perception and customer satisfaction.

### 1. INTRODUCTION

The literature has widely debated the relationship between risk perception and tourist satisfaction, with varying conclusions regarding its impact on consumer behavior. Several studies posit that reducing risk perception among tourists leads to higher satisfaction levels. The notion that tourist satisfaction is a key determinant of behavioral loyalty grounds this view, making the study of risk perception a critical factor in understanding tourism industry performance. Some literature highlights the significant influence of risk perceptions on tourist satisfaction, supported by both significant and non-significant negative associations between perceived risk and satisfaction, as evidenced in empirical research. Furthermore, previous studies have argued that a strong correlation exists between

risk perceptions and post-purchase evaluations, which often leads to diminished consumer value judgments and reduced satisfaction. This body of literature underscores that heightened risk perceptions typically lead to lower satisfaction and weaker repurchase intentions. However, the relationship between risk perception and satisfaction is not uniformly linear across all contexts. While high levels of perceived risk generally reduce satisfaction, the magnitude of this effect varies depending on contextual factors and market segments.

Purchasing a hotel service is an important decision for a consumer since it is also associated with the expectations and risks experienced during service encounters. Customers consider a variety of factors when purchasing a hotel room for their leisure activities. Researchers categorize the influencing factors in hotel room decision-making into several determinants, including, external environmental factors and internal personality factors (Salah et al., 2023). Moreover, several attributes (factors) of hotel products might influence hotel selection and market segmentation. Hence, to become a successful hospitality business, managers should understand how consumers perceive the service attributes and their importance compared to the competitors.

What are the most influential attributes in the hotel purchase decision? Hotel managers worldwide are actively discussing this crucial question. The hotel attributes that influence purchase decisions have been the subject of various studies. For example, the attributes of smart hotel consumption (Xiaobing, 2020) also involve the customer risk on technology usage regarding the hotel purchase decision. Meanwhile, for business purposes, the quality of in-room facilities (mattress, shower, and room cleanliness) are the main factors contributing to the purchase decision (Lockyer, 2002). In the context of the COVID-19 pandemic, hygiene facilities are increasingly gaining priority in purchase decisions (Lin & Chen, 2022). In the past two decades, scholars and researchers in tourism and hospitality studies have investigated the hotel attributes that influence purchase decisions. However, there is no framework available to answer this question. The study on hotel attributes and purchase decisions is dynamic and relatable to the context of segmentation (Huertas-Garcia, Laguna García, & Consolación, 2014). Hence, the different segments will be concerned with the different attributes in their decision-making process (Baruca & Civre, 2012).

Due to this phenomenon, the author intended to investigate the preference of accommodation attributes among the tourists in the post-pandemic context in Indonesia. This paper is aimed to describe the latest investigation on hotel attributes using the *field survey* method to collect the customer preferences on purchasing an accommodation in the post-health crisis in the tourist destination. This study could provide valuable insights for hotel managers in optimizing their services to enhance customer purchase decisions and foster customer loyalty.

## 2. LITERATURE REVIEW

### 2.1. Hotel Attributes in the Post-Pandemic Era

Scholars are frequently using the push and pull theory as the foundation to understand why tourists choose to pay for tourism and hospitality services. Push factors are the innate motivations that drive someone to engage in travel-related activities, including consuming hospitality services like booking a hotel room. On the other hand, pull factors are external motivations that encourage visitors to select a certain location for their travel and leisure activities (Ayoub & Mohamed, 2024).

The push-pull framework is a widely used theory to explain why tourists choose their locations, activities, and experiences (Gupta, Mahajan, Dogra, & Dogra, 2023). Moreover, the study also defined push factors as the motivations from consumer's minds that influence their decisions to purchase travel-related activities. Pull factors, meanwhile, are any local interest in a destination that influences a traveler to choose one location over another at a given moment. Push motives are connected to the self-motivation that forces the tourist to do any action toward tourism-related activities, while pull motives are considered destination features. Push and pull factors are distinct but always connected, with the former focusing on "whether to go" and the latter on "where to go" (Aebli, Volgger, & Taplin, 2022; Ayoub & Mohamed, 2024; Lee & Kim, 2023).

Push motivation refers to internal forces that motivate someone to travel. It symbolizes a person's psychosocial requirements that fuel their desire to travel. Individuals may travel to fulfil personal requirements such as seeking enjoyment, experiencing a calming environment, or acquiring new experiences by changing monotonous routines. Push motivation is a psychological desire that significantly influences a person's disequilibrium feeling and drives them to engage in activities that will allow them to stabilize their feelings through a tourism experience. The pull factors are the details that entice tourists to travel to a specific location. Pull factors are those aspects of the destination's qualities, attractions, or attributes. Scholar also makes the case that pull motivations are classified as the choices of characteristics that allow a tourist to make a specific decision toward a place, while push motivations are defined as any variables that increase the urge to travel (Saidin, Zulkefli, Mansor, Hashim, & Tri, 2024).

Some scholars concluded three push elements in tourism, which are nostalgia, novelty desire, and relaxation. Relaxation is the most frequently cited motivation when examining the push factors that encourage leisure travelers to visit a location. Novelty seeking in the interim encourages travelers to experience a new location for their trip activity, which includes staying in a new hotel they have never been to before (Yan, Shen, & Hu, 2022). Hence, according to the pull motivation framework, the accommodation attributes will be the basis of the analysis to understand tourist preferences in product decision-making. Although several studies have investigated the role of accommodation attributes in tourist decision-making, in the context of the post-COVID-19 pandemic, there is still limited study in analyzing that topic. Thus, this study is conducted to answer the question regarding tourist preferences for accommodation attributes during the ease of the pandemic.

The COVID-19 pandemic has significantly altered the dynamics of customer satisfaction in the hospitality industry, specifically in the relationship between hotel service attributes and customer risk perception. A recent study examines how the pandemic induced changes in this asymmetrical relationship, using multi-attribute models to assess how different service quality factors influenced customer satisfaction during this period. The findings suggest that situational factors, such as the outbreak of COVID-19, have created substantial shifts in the significance of particular service attributes (Kim, Liu, & Park, 2023). The study reveals that before the pandemic, customers preferred added-value aspects like luxury amenities or high customer service when choosing a hotel. However, in this post-pandemic era, customers have heightened focus on health and safety measures. Hygiene practices, contactless services, and adherence to public health guidelines emerged as critical factors that significantly impacted customer satisfaction. The study of Kim et al. (2023) confirms the change of preferences on hotel attributes among the customers in this post-crisis situation.

Another study also reveals that hotel attributes that previously contributed marginally to overall satisfaction, such as cleanliness and sanitation, become customers' priorities due to heightened concerns about safety (Albayrak, Dursun-Cengizci, Fong, & Caber, 2024). This dynamic shift illustrates that the asymmetry between hotel attributes preference and customer satisfaction is highly sensitive to external situational factors, which can significantly alter customer priorities.

However, since customers and hotels adjusted to the "new normal" era in this post-pandemic situation, many studies note that the weight of these asymmetrical relationships began to stabilize (Yan et al., 2022). Initially, any failure in safety-related service attributes had a much larger negative impact on customer satisfaction than in the pre-pandemic period. However, as hotels adopted more standardized safety protocols and customers grew more accustomed to these practices, the dramatic weight of safety-related attributes on satisfaction began to lessen, though they remained critical (Matiza & Slabbert, 2021). Thus, this phenomenon has become more interesting to elaborate on. The consistency of customer preferences on choosing hotel attributes in the post-pandemic situation should be questioned: whether they keep concerning safety and hygiene attributes, or is it becoming the usual condition according to the pre-COVID-19 situation? Hence, this study will elaborate on these practical debates.

## 2.2. Risk Perception in Tourism and Hospitality

Risk perception plays a pivotal role in consumer decision-making, particularly in the context of the hospitality industry, where the experience is inherently service-based and involves physical interactions (Im, Kim, & Choeh, 2021; Zhang, Huang, Chen, & Zhao, 2022). According to Protection Motivation Theory, consumers are more likely to engage in risk-averse behavior when they perceive potential threats to their health or well-being, including in this pandemic situation (Pan, Qiu, Hu, & Li, 2024). The COVID-19 pandemic has heightened consumer sensitivity to health risks, particularly in the public environment like hotels, where guests share communal spaces and interact with one another. The daily habit changes during pandemic become a new adaptation of consumer behavior in the post-pandemic era. A study predicts that tourists are likely to continue prioritizing safety and hygiene factors in their decision-making processes after the post-pandemic situation where risk concerns become priority (Majeed & Ramkissoon, 2020).

Studies conducted during the pandemic demonstrate that consumers' perceived risk directly impacts their travel behavior, particularly regarding the selection of accommodation (Maulana, Astuti, Sukamdani, & Tjiptoherijanto, 2022; Nicolau, Rodríguez-Sánchez, & Ruiz-Moreno, 2024). Tourists tend to choose a recreational activity or their preferred accommodation, which can minimize exposure to their risk preference. However, some accommodation or tourist destination management fails to meet their preferred product and service standards. Tourists become more demanding on their choices, and it can impact the overall customer satisfaction in any context of tourism and hospitality services (Sun, Chai, Fan, & Zhang, 2023). Therefore, risk perception serves as a critical filter through which customers evaluate hotel attributes, determining their overall satisfaction with the service.

A study by Godovykh, Pizam, and Bahja (2021) is one of the comprehensive reviews in analyzing the relations of risk perception and customer behavioral loyalty. The conceptual model suggests that future research should comprehend these aspects and their consequences on travel behavior by providing a systematic and theoretically integrated review of the key variables influencing tourists' risk perceptions and behavioral intentions. Therefore, he concluded that risk perception influences various antecedents, including risk-taking behavior, intention to revisit, tourist satisfaction, destination image, and others (Godovykh et al., 2021). Thus, in this study, the behavioral loyalty intention will become the antecedent of the model development.

Tourists evaluate all the attributes of a tourist destination in the post-purchase stage, including their satisfaction during the travel activities. Previous research models have rarely used risk perceptions as an antecedent of customer satisfaction, despite using other types of satisfaction, such as expectations of product performance, as antecedents. However, risk perceptions and customer satisfaction share a common influence from consumption experience. Therefore, more research is required to understand the direct impact of risks on customer satisfaction with hospitality services (Hasan, Ismail, & Islam, 2017).

The topic on the relations of risk perception and tourist satisfaction was also investigated by other scholars in various contexts of risk situations, such as climate crisis, transportation safety, health disease, criminal threat, and some other contexts. The relationship between tourist risk perception, destination image on specific crises, and tourist satisfaction was studied to see the relationship among these variables (Jarumaneerat, 2022; Kim et al., 2023; Zhan, Zeng, Morrison, Liang, & Coca-Stefaniak, 2022). The study reveals that risk perception plays a pivotal role in tourist decision-making in several contexts of tourism and hospitality services, and it can influence the overall tourist satisfaction. Hence, in understanding tourist satisfaction in the post-pandemic era, the role of risk perception and hotel attribute preference becomes more relevant to be investigated.

## 2.3. Hypotheses Development

In the tourism and hospitality literature, tourist satisfaction is known as the result of an evaluation process where customers compare their expectations with their actual experience while consuming the tourism services

(Chung, Yu, Choi, & Shin, 2015; Kim et al., 2023). Some studies reveal that in the post-pandemic era, guest satisfaction is increasingly influenced by hotel attributes that reduce perceived risk. Hotels that align their services with heightened safety standards are more likely to achieve higher levels of customer satisfaction (Hashish, Abdou, Mohamed, Elenain, & Salama, 2022).

Recent studies also show that post-pandemic travelers are more likely to perceive satisfaction with hotels that emphasize cleanliness, hygiene, and health protocols (Maulana et al., 2022; Sun et al., 2023). Hotels that fail to meet these expectations risk damaging their reputation. For example, customer who is not satisfied with an accommodation service may complain or write a negative review toward the hotel. The negative testimony or word of mouth in online channels can impact future sales.

Interestingly, some studies conduct sentiment analysis of guest reviews in the post-COVID era, and it indicates that the visibility of health and safety measures is strongly associated with positive reviews, underscoring the importance of these attributes in shaping customer perceptions. Other research also suggests that hotel attributes related to technology adoption, such as digital check-ins, keyless entry systems, and app-based room service requests, can enhance customer satisfaction. These technological innovations not only appeal to the health-conscious traveler but also contribute to the overall guest experience by providing convenience and efficiency (Wan, Chan, & Luo, 2021). These findings enhance the role of risk perception toward hotel attribute preference and can impact guest satisfaction.

Hence, the research model is developed as follows:

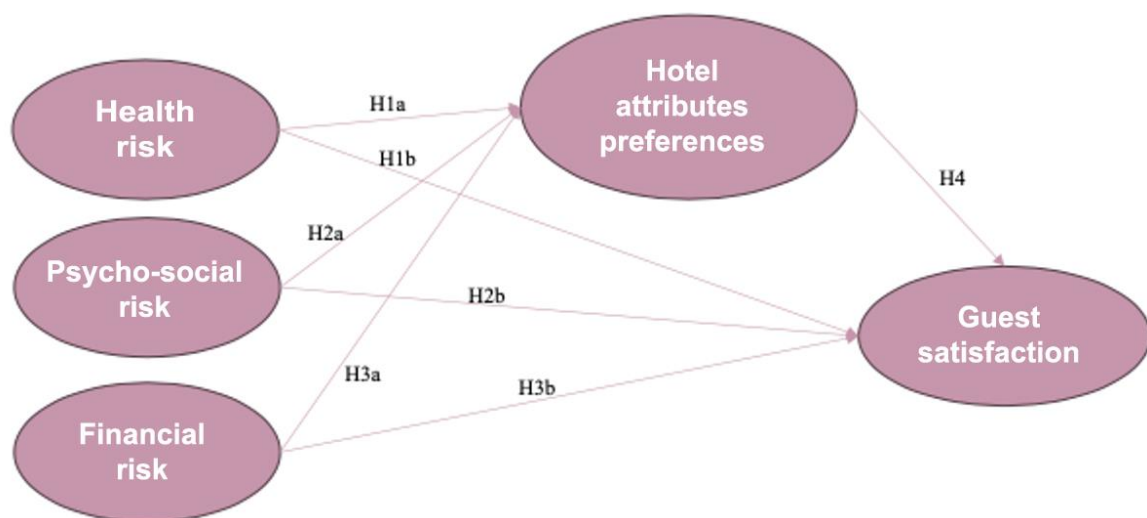


Figure 1. Research model development.

Figure 1 illustrates the research model in this study that aims to investigate the role of hotel attribute preference as the mediating variable between risk perception and guest satisfaction. Based on the literature review, the risk perception variables that were investigated in this study are health risk, psychosocial risk, and financial risk as the common risk-related variables in the pandemic context. Hence, the hypotheses of the study are stated as follows:

- *H<sub>1a</sub>*: Hotel attributes preference mediates the relationship between health risk perception and guest satisfaction.
- *H<sub>1b</sub>*: Health risk has negative and significant impact on guest satisfaction.
- *H<sub>2a</sub>*: Hotel attributes preference mediates the relationship between psychosocial risk perception and guest satisfaction
- *H<sub>2b</sub>*: Psychosocial risk perception has a negative impact on guest satisfaction.
- *H<sub>3a</sub>*: Hotel attributes preference mediates the relationship of financial risk perception and guest satisfaction.
- *H<sub>3b</sub>*: Financial risk perception has a negative impact on guest satisfaction.
- *H<sub>4</sub>*: Hotel attributes preference has a positive and significant impact toward guest satisfaction.

### 3. METHODS

#### 3.1. Research Design

This study is a quantitative research methodology that utilizes a conclusive research design to test the hypotheses stated in the research model. The research is designed to provide clear insights into the relationships between various latent variables, which are guest satisfaction, hotel attributes, and risk perception. The study adopts a cross-sectional approach, one-time research, in which data were collected at a single point in time from the targeted respondent. This approach is ideal for studying current behaviors and preferences in a specific context, especially in the tourism and hospitality topics. In the following sub-sections, the author will elaborate on each step of the methodology applied in this research design.

#### 3.2. Data Collection Technique

As a cross-sectional study, the data collection method was developed in two approaches, using an online questionnaire and an offline (printed) survey instrument. Online surveys were distributed through Google Forms, while printed questionnaires were administered offline to capture responses from a wider pool of participants, ensuring greater inclusivity. Respondents were asked to provide their feedback using a 5-point Likert scale, where 1 represented strong disagreement and 5 represented strong agreement. Behavioral research commonly uses this scaling method to measure attitudes and perceptions, ensuring consistency across responses. The link to the online questionnaire was distributed through email and text messaging applications (WhatsApp, Line, Telegram, and Facebook Messenger). Meanwhile, printed questionnaire was distributed directly by the author to targeted respondents in five popular tourist destinations in Indonesia (Jakarta, Yogyakarta, Bali, Lombok, and Bangka Belitung). Data were collected during 2022 as the first post-pandemic stage in Indonesia, as stated by the government through serial policies on COVID-19 handling strategy.

#### 3.3. Participants and Sampling

The study utilized non-probability sampling, with the sample consisting of individuals who satisfied the research design criteria. (Malhotra, 2018) applied a specific criteria-based purposive sampling technique for the targeted respondent. Purposive sampling was chosen to select individuals who meet specific criteria, which are those tourists who visit and stay in a tourist destination in the early stage of post-pandemic era in Indonesia in the first semester of 2022. The study focused on respondents aged between 18 and 65 years who had recently visited one of Indonesia's tourist destinations and stayed in one of the available accommodation options (hotel, villa, resort, or homestay). This targeted sampling approach ensured the respondents had relevant experience for providing insights into accommodation satisfaction. Thus, to determine the appropriate sample size, the Krejcie and Morgan formula was applied. Researchers widely use this statistical method to calculate sample sizes for research involving large populations. Based on the formula, the study required a minimum of 384 respondents, providing sufficient statistical power for the data analysis.

#### 3.4. Measurement Items

Based on the literature review of the previous study, the measurement of each latent variable was developed to ensure the quality of the data. Guest satisfaction was measured using items from established studies in the tourism and hospitality fields (Flavián, Guinalíu, & Gurrea, 2006). The following three items were used: "I feel satisfied during my stay"; "I enjoyed the ambiance of the accommodation"; "I had a memorable experience during my stay." In terms of accommodation attributes, five indicators were used to capture various aspects of the guest experience: "The employee has good hygiene performance"; "The employee performs good service quality"; "The location has good access"; "The accommodation provides free breakfast"; "The accommodation has public facilities (pool, lounge, restaurant)." Meanwhile, risk perception was measured using a set of items adapted from the work of Maulana et al.

(2022) reflecting tourists' concerns and considerations when booking accommodations. The items consisted of Health Risk (4 items), Psychosocial Risk (4 items), and Financial Risk (3 items) (Maulana et al., 2022). Each item was measured using five-point Likert scale as stated in the previous section.

### 3.5. Data Analysis Technique

This study employs the Partial Least Squares Structural Equation Modeling (PLS-SEM) method as the data analysis technique. PLS-SEM is particularly effective for analyzing complex path models, especially in cases where the data may not meet the assumptions of normality or where sample sizes are relatively small (Hair Jr, Howard, & Nitzl, 2020). This technique is suitable for exploring the relationships between latent variables, making it a popular preference among scholars, especially in tourism and hospitality research. The study employed the Smart-PLS 4 software to perform statistical tests on the research model, thereby testing the hypotheses. People widely recognize this tool for its ability to handle complex models with multiple constructs and indicators, ensuring accurate and reliable results.

Therefore, the focus of PLS-SEM on maximizing the explained variance of endogenous constructs sets it apart from other structural equation modeling techniques like covariance-based SEM. This makes it particularly useful when the goal is prediction or theory development, as in this study. This study extends the application of PLS-SEM by applying it within the context of tourist satisfaction, where most previous research has relied on traditional SEM approaches.

By employing these rigorous methods, this study aims to contribute to the broader understanding of hotel attributes and guest behavior. The findings are expected to offer new insights into the factors that influence guest satisfaction, providing a valuable reference for both academia and the tourism industry. This approach not only highlights the evolving expectations of tourists but also demonstrates the potential of PLS-SEM in capturing the complexity of guest experiences and perceptions.

## 4. RESULTS AND ANALYSIS

### 4.1. Respondent Background

The main test in this study collected 568 total respondents who participated in this survey through an online and offline questionnaire. However, after a detailed evaluation of each response, only 514 responses are accepted and could be further analyzed into a cluster analysis. Therefore, this final number of respondents meets the minimum sample requirements for the study. According to data in Table 1 about the descriptive background, the total respondents are dominated by females (62%) compared to male respondents (37%). Young adults aged 1-40 (41%) and 21-30 (38%) also dominate the respondents. It also describes that majority of the travelers in Indonesia, especially in major tourist destinations such as Bali, Lombok, and Yogyakarta, are also dominated by young adults aged less than 40 years old. Hence, to better understand the age group, the authors purposively categorize the respondents into six age categories to provide better insight into the business practitioner in the tourism and hospitality sector. Moreover, based on a study, gender has significant roles in moderating effect between perceived risk and behavior intention (Gao & Chen, 2022).

Interestingly, most respondents are staying at hotels (69%), villas (14%), homestay (10%), and 5% others are staying at various types of accommodation such as apartments, resorts, bungalows, and glamour camping in Indonesia. Regarding the vaccination status, most respondents have been vaccinated for three doses (booster) of COVID-19 vaccination (81.8%) and two doses of vaccination (16.8%). Meanwhile, regarding respondent nationality and country of origin, most respondents are domestic tourists (Indonesian), and some others are coming from European countries (10.7%), such as France, Britain, Spain, Sweden, and others. Other respondents are coming from Asian countries (5.4%) such as India, Singapore, Korea, Malaysia, and others. Meanwhile, some other respondents are coming from the American continent (1.6%), African countries (1.4%), and Australia (1%).

Table 1. Descriptive data of the respondents.

Item description	Category	Frequency (n: 514)	Percentage
Gender	Male	194	37.7%
	Female	320	62.3%
Age category	< 20 years	8	1.6%
	21 - 30 years	194	37.7%
	31 - 40 years	212	41.2%
	41 - 50 years	67	13%
	51 - 60 years	26	5.1%
	> 60 years	7	1.4%
Education level	High school and below	24	4.7%
	Diploma/Academy	38	7.4%
	Bachelor degree	224	55.3%
	Master degree	152	29.6%
	Doctoral degree (PhD)	16	3.1%
Country of origin	Indonesia (Domestic)	411	80%
	Asia countries (Except Indonesia)	28	5.4%
	European countries	55	10.7%
	American countries	8	1.6%
	African countries	7	1.4%
	Australia and New Zealand	5	1.0%
Type of tourist accommodation	Hotel	357	69.5%
	Villa	74	14.4%
	Apartment	10	1.9%
	Homestay/Hostel	53	10.3%
	Others	20	3.7%

#### 4.2. Measurement (Outer) Model Analysis

This study investigates the interplay between various risk factors and guest satisfaction within the hospitality industry, employing Structural Equation Modeling (SEM) through SmartPLS software. This analysis is pivotal for understanding how different perceived risks and hotel attributes influence overall guest satisfaction, guiding strategic decision-making in the hospitality sector. The constructs examined include financial risk, guest satisfaction, health risk, hotel attributes, and psychosocial risk. The research primarily focuses on evaluating construct validity and reliability, discriminant validity, and the predictive capability of the proposed model. The author conducts PLS-SEM analysis using SmartPLS 4. This application will assist in analyzing the hypothesis and developing the research model for the study.

Based on the measurement model analysis result, all criteria have been fulfilled through the analysis of validity and reliability according to Hair Jr et al. (2020). Construct validity and reliability, are critical to ensuring that the measurement model accurately reflects the constructs it aims to measure. These properties were assessed using Cronbach's alpha, Composite Reliability ( $\rho_a$  and  $\rho_c$ ), and Average Variance Extracted (AVE). The constructs exhibit varying levels of reliability and validity.

Financial risk demonstrated acceptable reliability and validity, as indicated by Cronbach's alpha (0.730), Composite Reliability ( $\rho_c = 0.845$ ), and AVE (0.646). Guest satisfaction exhibited good reliability and validity, with Cronbach's alpha (0.884), Composite Reliability ( $\rho_c = 0.928$ ), and AVE (0.811). These metrics align with prior studies highlighting the multifaceted nature of guest satisfaction in hospitality settings. Health risk showed good reliability and validity, reflected in Cronbach's alpha (0.845), Composite Reliability ( $\rho_c = 0.887$ ), and AVE (0.664). Meanwhile, hotel attributes had acceptable reliability and validity, with Cronbach's alpha (0.780), Composite Reliability ( $\rho_c = 0.850$ ), and AVE (0.533). This suggests potential issues in the measurement items, warranting further refinement as supported by the literature on service quality and hotel attributes. Psychosocial risk indicated good reliability and validity with Cronbach's alpha (0.841), Composite Reliability ( $\rho_c = 0.889$ ), and



AVE (0.671). This is consistent with findings on the psychological impacts of travel and accommodation decisions from previous studies, as mentioned in the literature review section.

Following the measurement model analysis, the author also reviews the discriminant validity in this study. This step aims to assess whether constructs are truly distinct from one another. This was evaluated using the Fornell-Larcker criterion, where the square root of the AVE for each construct should be greater than its correlations with other constructs (Hair, Risher, Sarstedt, & Ringle, 2019). Hence, the analysis reveals adequate discriminant validity, as the square root of the AVE for each construct is greater than its correlations with other constructs. Thus, these numbers confirm that each construct is empirically distinct, corroborating findings from previous research on discriminant validity in SEM. Furthermore, the R-square ( $R^2$ ) and adjusted R-square values indicate the proportion of variance in the dependent variables explained by the independent variables. The R-square value can be seen in the blue circle in endogenous variables only, as shown in Figure 2. Guest satisfaction had an R-square value of 0.210, suggesting that 21% of the variance in guest satisfaction is explained by the model. The adjusted R-square (0.204) is close to the R-square, indicating minimal adjustment for the number of predictors. This level of predictive power is consistent with other studies in hospitality research. Hotel attributes had a lower R-square value of 0.035, indicating that only 3% of the variance is explained by the model. The adjusted R-square (0.029) suggests a slight adjustment, pointing to the need for incorporating additional explanatory variables to capture the variance in hotel attributes better.

#### 4.3. Inner (Structural) Model Analysis

The inner model is aimed at answering the research question by analyzing the relations among the variables in the model. Thus, hypothesis testing was also analyzed in this study by conducting bootstrapping analysis in SmartPLS as suggested by Hair Jr et al. (2020). Figure 2 below displays the outcome of the structural analysis. The structural model results from SmartPLS provide a comprehensive understanding of the relationships between various perceived risks—health risk, psychosocial risk, financial risk—and their impact on hotel attributes and guest satisfaction within the hospitality industry. The analysis reveals several significant path coefficients, indicating the strength and direction of these relationships.

Based on the Figure 2, health risk has a positive and statistically significant relationship with hotel attributes with a path coefficient of 0.145 ( $p < 0.05$ ). This finding suggests that higher perceptions of health risk are associated with more positive evaluations of hotel attributes. This relationship underscores the importance of health measures in enhancing the perceived quality of hotel facilities. However, the different finding occurred in other relationships. Health risk negatively impacts guest satisfaction, with a path coefficient of -0.252 ( $p < 0.01$ ). This finding indicates that higher health risks reduce guest satisfaction.

Psychosocial risk also positively influences hotel attributes as shown in Figure 2, with a path coefficient of 0.137 ( $p < 0.05$ ). This finding implies that addressing psychosocial concerns can improve the perceived quality of hotel attributes. However, psychosocial risk has a strong negative impact on guest satisfaction, with a path coefficient of -0.348 ( $p < 0.001$ ). This indicates that psychosocial risks, such as travel anxiety, significantly detract from the overall guest experience.

Financial risk negatively impacts guest satisfaction with a path coefficient of -0.220 ( $p < 0.01$ ). This finding highlights the importance of financial transparency and providing value-for-money propositions for the customer. Guests perceiving high financial risks are less satisfied, suggesting that hotels should offer clear pricing. Hotel attributes positively influence guest satisfaction, with a path coefficient of 0.274 ( $p < 0.001$ ). This relationship confirms the critical role of hotel attributes in enhancing the guest experience.

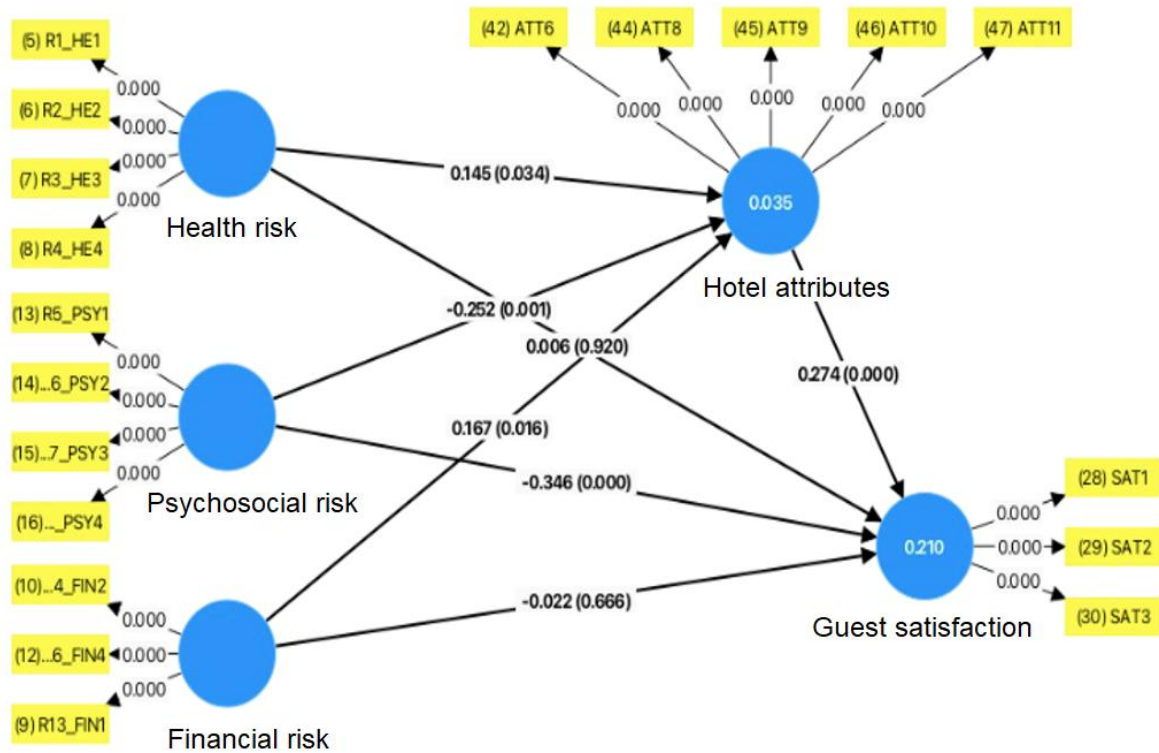


Figure 2. The structural model for hypothesis testing.

Table 2. Specific indirect effect.

Path direction	Original sample (O)	Sample mean (M)	Std. deviation (STDEV)	t-statistic (O/STDEV)	Sig.
Psychosocial risk → Hotel attributes → Guest satisfaction	-0.069	-0.069	0.023	2.970	***
Financial risk → Hotel attributes → Guest satisfaction	0.046	0.047	0.021	2.125	**
Health risk → Hotel attributes → Guest satisfaction	0.040	0.039	0.020	1.988	**

Note: \*\*\*p-value < 0.01; \*\*p-value < 0.05.

Following the hypothesis testing in the previous section, the author also tests the indirect effect relationship among the variables. The specific indirect effects shown in Table 2 illuminate the mechanisms through which constructs influence each other via hotel attributes. Hotel attributes mediate the indirect effect from health risk to guest satisfaction, which stands at 0.040 ( $p = 0.047^{**}$ ). This finding indicates that the path is statistically significant with a positive relationship. Consequently, the study supports Hypothesis 1a (H1a). This finding confirms that health risks positively impact guest satisfaction through their preferences on hotel attributes.

The indirect effect of psychosocial risk on guest satisfaction, as determined by hotel attributes is -0.069 ( $p = 0.003^{***}$ ). This finding indicates that the path is statistically significant with a negative relationship. This suggests that psychosocial risks adversely impact guest satisfaction through their negative effect on hotel attributes. Therefore, hypothesis 2a (H2a) is supported.

The indirect effect of financial risk on guest satisfaction, as determined by hotel attributes is 0.046 ( $p = 0.034^{**}$ ). This finding indicates that the path is statistically significant with a positive relationship. This implies that financial risks positively influence guest satisfaction. Therefore, this study supports hypothesis 3a (H3a).

These findings have several practical implications for the hospitality industry. The direct negative effect of psychosocial risk on guest satisfaction enhances the previous finding regarding the importance of addressing psychological and social concerns for guest satisfaction. Meanwhile, the positive relationship between health risk,

financial risk, and hotel attributes may also improve the understanding of consumer behavior in this post-pandemic era. The higher perception of risk that may occur from customer in choosing a hotel, the higher concern for hotel attributes that may occur in their decision-making. This may imply that during financial and health uncertainties, guests scrutinize their choices more carefully, leading to a higher perceived value or quality of hotel attributes (Dolnicar, 2002; Dolničar, 2004).

#### 4.4. Discussion and Implication

The analysis revealed that financial risk does not directly influence guest satisfaction, as indicated by a non-significant path coefficient ( $-0.022$ ,  $p = 0.666$ ). This result contrasts with some previous studies, such as Nisar, Haider, Ali, Naz, and Ryu (2021), who found that financial risks, especially during economic downturns, have a direct negative impact on customer satisfaction, particularly in the hospitality sector (Nisar et al., 2021). Other findings also suggested that guests under financial stress might overlook financial concerns if they perceive the hotel attributes as valuable and of high quality, thus reducing the negative impact of economic risks on satisfaction.

The finding that health risk does not directly affect guest satisfaction ( $0.006$ ,  $p = 0.920$ ) is consistent with Seong and Hong (2021), who noted that, in post-pandemic periods, health concerns alone are insufficient to influence customer satisfaction directly, unless they are paired with poor service quality or inadequate safety measures (Seong & Hong, 2021). However, our results show that health risks significantly influence hotel attributes ( $0.145$ ,  $p = 0.034$ ), supporting a previous study that found that when guests perceive health risks, they place greater importance on safety measures such as cleanliness and hygiene standards, which enhances their perception of hotel quality (Sun et al., 2023).

Psychosocial risk demonstrated a strong negative effect on guest satisfaction ( $-0.346$ ,  $p < 0.001$ ), which is in line with Rainieri, Buizza, and Ghilardi (2023), who found that psychological stress and social anxieties have significant adverse effects on the overall guest experience (Rainieri et al., 2023). This emphasizes the importance of hotels addressing psychosocial risks by fostering a supportive environment that alleviates guest anxiety through stress-reducing measures and thus improves satisfaction.

The significant positive relationship between hotel attributes and guest satisfaction ( $0.274$ ,  $p < 0.001$ ) aligns with the work of Adhikari, Wagley, and Dahal (2023), who highlighted that well-maintained hotel attributes, such as service quality and amenities, are critical drivers of guest satisfaction, especially as guests become more discerning in the post-pandemic era (Adhikari et al., 2023). Thus, the research supports that investments in high-quality physical attributes will enhance the guest satisfaction. The investment that might be implemented, such as improving the cleanliness, comfort, and service during customer journey, will not only enhance guest satisfaction but also encourage loyalty and positive word-of-mouth.

The hotel attributes mediated the positive and significant indirect effect of financial risk on guest satisfaction ( $0.046$ ,  $p = 0.034$ ). This aligns with the previous findings of Chen, Kuo, and Tsaor (2022), who suggested that during times of economic uncertainty, guests who perceive high-quality hotel attributes are more likely to overlook financial concerns and place greater emphasis on their overall experience (Chen et al., 2022). This finding also aligns with the current study, which supports the importance of delivering high-quality attributes to mitigate dissatisfaction.

Similarly, the positive indirect effect of health risk on guest satisfaction mediated by hotel attributes ( $0.040$ ,  $p = 0.047$ ) highlights the importance of health-related features in the hotel industry. Nair and Pratt (2024) found that hotels that prioritize health and safety measures, particularly in the ease of COVID-19 pandemic, will experience higher levels of guest satisfaction as these features enhance guests perceptions (Nair & Pratt, 2024). Therefore, hotel managers shall keep their concern on health and safety attributes to improve their guest satisfaction, even though in this post-pandemic era.

## 5. CONCLUSION

This study aims to analyze the relationship between risk perception variables and guest satisfaction mediated by hotel attributes in the hospitality industry in Indonesia. Previous studies argued that guest preference toward hotel attributes can mediate the impact of risk perception toward guest satisfaction when staying at an accommodation. However, some other findings contrast this argument. This study aims to contribute to these theoretical debates among the scholars. As a quantitative study, data were collected through a field survey of 568 foreign and domestic tourists in major tourist destinations in Indonesia. The SEM-PLS with bootstrapping analysis for mediation effect was applied in the study. The findings underscore the significant role of hotel attributes in mediating the relationship between health, psychosocial, and financial risk toward guest satisfaction. While health and financial risk have a significant and positive effect, meanwhile, psychosocial risk has a significant negative effect on hotel attributes and guest satisfaction. This finding indicates that hotel attributes play pivotal roles in mitigating the customer risk perception in the context of tourism and hospitality services. The study also provides valuable insights for hotel managers to enhance guest satisfaction amidst various risk factors. Hence, by improving hotel attributes and addressing psychosocial and health concerns, hotels can provide better services and maintain high levels of guest satisfaction. These insights contribute to a broader understanding of risk management and customer satisfaction in the hospitality industry and offer practical strategies for hotel management to enhance guest experiences.

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