

# Customer dependence on OTA, brand autonomy, and direct booking intention in Bali boutique villas

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## Abstract

This study examines the influence of customer dependence on Online Travel Agents (OTAs) on brand autonomy perception and direct booking intention in boutique villas in Bali. Grounded in the Stimulus–Organism–Response (S-O-R) framework, OTA dependence is positioned as the external stimulus, brand autonomy perception as the internal evaluative mechanism, and direct booking intention as the resulting behavioral response. Using a quantitative approach, data were collected from 192 international and domestic travelers who had booked boutique villas via OTA platforms or direct channels. Structural Equation Modeling–Partial Least Squares (SEM–PLS) was employed to analyze both direct and mediating effects. The findings reveal that OTA dependence significantly diminishes brand autonomy perception and reduces customers' intention to book directly. Despite the growing body of research on OTA dominance and online booking behavior, prior studies have not explicitly examined customer dependence on OTAs as a stimulus, brand autonomy perception as an organism, and direct booking intention as a response within the Stimulus–Organism–Response (S-O-R) framework, particularly in the context of boutique villas in experiential destinations such as Bali. Brand autonomy perception positively influences direct booking intention and acts as a significant mediator in the relationship between OTA dependence and direct booking behaviors. These results highlight the strategic necessity for boutique villas to strengthen direct digital channels and reinforce authentic brand narratives to counterbalance OTA standardization. In experiential destinations such as Bali, enhancing brand autonomy is essential to maintain differentiation, improve customer trust, and support sustainable distribution strategies.

**Keywords:** OTA Dependence, Brand Autonomy, Direct Booking Intention, Boutique Villas, S-O-R Framework.

## Introduction

The digital transformation has fundamentally reshaped the hospitality industry. Advances in the internet, artificial intelligence, and online platforms have revolutionized the way travelers search for, evaluate, and book accommodations. Online Travel Agents (OTAs) such as Booking.com, Agoda, and Traveloka have become dominant distribution channels by providing convenience, extensive customer review systems, and a high degree of price transparency (Jolene, 2023; Lv et al., 2020). This dominance is also evident empirically. According to the D-EDGE Hotel Distribution Report (2024), approximately 68% of online hotel revenue in Asia (including Indonesia) still originates from OTA channels, while direct bookings contribute only 32%. Globally, an average of 71% of online hotel revenue is driven by third-party channels (OTAs and aggregators), underscoring the industry's reliance on online platforms despite direct bookings remaining the highest-margin channel. Euromonitor International (2025) projects that this trend will continue to rise alongside the accelerated digitalization of national tourism.

Although OTAs offer efficiency and convenience for consumers, their dominance presents significant challenges for independent accommodation providers. OTAs possess considerable bargaining power through price-parity requirements, aggressive discounting strategies, and practices considered harmful, such as local tax avoidance (Kemenparekraf, 2023; PHRI, 2023). These conditions restrict hotels' autonomy in managing distribution and maintaining brand identity. For small-scale accommodations such as boutique villas, these challenges are even more severe due to limited resources and marketing capacity.

In response, many hotels have begun strengthening their direct booking channels, including official websites, social media, and private messaging platforms. These strategies have been shown to improve profit margins, reclaim control over customer data, and foster loyalty through personalized communication (Netsuite, 2024). Global trends support this shift: since the COVID-19 pandemic, traveler preference for direct booking has increased by nearly 40%, driven by trust, safety, and the value-added benefits offered through official channels (HospitalityNet, 2023). Nevertheless, the success of direct-booking strategies is not solely determined by the availability of digital channels it also depends on travelers' perceptions of brand autonomy. Travelers are more likely to book directly when they perceive an accommodation to operate independently with minimal reliance on OTAs (Hong & Ahn, 2023). In experiential tourism destinations, where accommodation value is closely tied to authenticity and personalization, the effectiveness of direct booking strategies becomes inseparable from how hotels communicate brand independence.

Bali represents a highly relevant context for examining direct booking behavior and customer dependence on OTAs because it is an experiential tourism destination where accommodation choices are strongly driven by perceived authenticity, privacy, and personalized service. In such destinations, boutique villas rely heavily on brand differentiation to attract guests, yet simultaneously face high dependence on OTAs to gain international visibility, particularly among first-time and international travelers. This structural condition makes Bali an ideal setting to analyze how OTA dependence shapes customers' perception of brand autonomy and subsequently influences their intention to shift toward direct booking channels.

As Indonesia's primary international tourism gateway, accounting for more than 30% of inbound arrivals (BPS, 2024), Bali also functions as the epicenter for the rapid growth of independent boutique accommodations and villas, intensifying competition for visibility and increasing reliance on OTA platforms. Despite the increasing number of visitors, data from PHRI Bali show that the average occupancy rate of non-star hotels is only around 33-35%, while star-rated hotels reach 63% (PHRI Bali, 2024). The low occupancy of small-scale accommodations is suspected to be linked to the large number of travelers opting for independent villas that are not officially recorded in industry datasets (Wahana News, 2024). At the same time, villa and boutique hotel operators are planning expansions of up to 200 new properties beginning in 2025 (Sindonews, 2025). A Colliers report cited by TTG Asia (2025) estimates that the villa market in Bali grew at an average rate of 22% per year between 2020 and 2023, driven by travelers' preferences for privacy, exclusivity, and personalized experiences. Bali Satu Data (2020) also records thousands of accommodation units across key regencies such as Gianyar, Badung, and Denpasar, illustrating the scale of this rapid expansion. These facts highlight that boutique villas represent a fast-growing segment while simultaneously facing unique challenges related to visibility and dependence.

on OTAs.

A concrete illustration can be seen in Visakha Sanur by Puri Signatures, an exclusive boutique villa in Sanur that combines OTA distribution with official direct channels. With a limited number of units and a strong emphasis on Balinese cultural experiences, Visakha faces a dual-distribution dilemma: how to maintain brand independence while leveraging OTAs to expand market reach. This case reflects the typical conditions faced by boutique villas in Bali and makes it an ideal context for examining the relationship between OTA dependence, brand autonomy perception, and direct booking intention.

Research on OTAs has been widely conducted. Lv et al. (2020) discuss the global dominance of OTAs, (Jolene, 2023) highlights their pricing strategies. However, these studies tend to focus on large hotel chains, leaving boutique villas in major tourism destinations relatively underexplored (Indiani et al., 2023). Additionally, although brand autonomy has been shown to influence loyalty and direct booking intention Chourasia (2024), Hong and Ahn (2023), prior studies have not examined this variable as a mediator in the relationship between OTA dependence and direct booking intention. This gap is particularly relevant in the context of independent accommodations that emphasize cultural identity differentiation and localized experiences (BII et al., 2023).

The Stimulus–Organism–Response (S-O-R) framework has been widely used to explain online booking behavior (Mohammad et al., 2024; Nguyen et al., 2025). While prior studies have applied the Stimulus–Organism–Response (S-O-R) framework to online hotel booking behavior (Nguyen et al., 2025) and examined brand-related psychological constructs such as autonomy, trust, or brand image in hospitality contexts Hong and Ahn (2023) and Indiani et al. (2023), these streams of research remain fragmented. To date, no study has explicitly integrated customer dependence on Online Travel Agents (OTAs) as the stimulus, brand autonomy perception as the organism, and direct booking intention as the response within a single S-O-R model, particularly in the context of Bali's boutique villas. Thus, this study offers a twofold contribution. First, it fills a contextual gap by examining the phenomenon among boutique villas in Bali, a rapidly growing yet OTA-vulnerable accommodation segment. Second, it offers a conceptual contribution by extending the S-O-R framework through the incorporation of brand autonomy perception as a mediating variable. Practically, this study is expected to assist boutique villa operators in Bali in formulating more sustainable distribution strategies, reducing overreliance on OTAs, and strengthening customer loyalty through enhanced brand identity and autonomy.

## **Literature Review**

Digital transformation has reshaped how hotels operate and distribute their rooms. Digital technologies including artificial intelligence have been shown to enhance efficiency, service personalization, and customer relationships (Beldjilali, 2025; Yolcu et al., 2025). To be effective, digital distribution strategies must be integrated into hotel management practices, for example through SEO and mobile applications that enhance the guest experience (Albeshchenko et al., 2025; Shakhzoda, 2025). In the context of this study, digital transformation directly relates to how hotels manage relationships with OTAs and influences both brand autonomy perception and direct booking intention.

OTAs have become dominant distribution channels for hotels, yet they also create strategic challenges. OTA dependence limits control over pricing and access to customer

data Alhassan (2024), and Lv et al. (2020), although some literature highlights potential benefits when managed adaptively (Jolene, 2023). Thus, dependence on OTAs is not inherently negative; rather, its impact depends on how the relationship is strategically managed particularly in the current digital era.

**Table 1. Summary of Prior Studies and Identified Research Gaps**

Source	Research Focus	Key Findings	Limitations / Gaps
Lv et al. (2020)	OTA dominance in hotel distribution	OTAs restrict hotels' ability to engage directly with customers	Focus on large hotel chains; not specific to boutique villas
Jolene (2023)	OTA strategy and management	OTAs can be beneficial if managed adaptively	Not linked to brand autonomy
Alhassan (2024)	Customer data access & OTAs	Loss of customer data reduces personalization and loyalty	No direct link to direct booking effects
Indiani et al. (2023)	Brand image & communication	Brand image mediates communication → booking intention	General hotel context; not specific to Bali boutique villas
Kareem and Venugopal (2023)	Online distribution	Channel quality influences booking intention through brand perception	Not explicit about OTA dependence
Hong & Ahn (2023)	Brand autonomy & loyalty	Autonomy strengthens emotional attachment & direct booking	Not tested as a mediating variable
Chourasia (2024)	AI & brand control	AI strengthens message control & service personalization	Tech-focused; not connected to OTA distribution
Bii et al. (2023)	Adaptivity & brand independence	Autonomy may be counterproductive without proper adaptation	Not linked to OTA dependence → booking intention
Herstein et al. (2018)	Autonomy in boutique hotels	Independence does not always increase satisfaction	Israel context, less relevant to Bali
Mohammad et al. (2024)	Social commerce & engagement	Engagement → brand image → booking intention	Does not examine OTA dependence
Seo et al. (2024)	Green marketing & ethics	Ethical practices shape brand image and booking	Sustainability-focused, not distribution-focused
Nguyen et al. (2025)	S-O-R framework	Information quality → perceived value → booking	Does not include brand autonomy as mediator

Brand autonomy perception is crucial for hotels seeking to maintain differentiation and strengthen customer loyalty. Studies show that brand autonomy enhances emotional attachment and increases direct booking intention (Chourasia, 2024; Hong & Ahn, 2023). However, brand autonomy also carries ambivalent implications: without appropriate adaptation, autonomy may weaken organizational performance (Bii et al., 2023; Herstein et al., 2018). Therefore, organizational context and managerial approaches play significant

roles in determining the effectiveness of brand autonomy.

Direct booking intention reflects customers' inclination to choose official hotel channels over OTA intermediaries. Research indicates that digital factors such as information quality, interactivity, and social commerce can strengthen brand image and increase direct bookings (Mohammad et al., 2024; Nguyen et al., 2025). Moreover, ethical and sustainability perceptions serve as important determinants Seo et al. (2024), while risk perceptions and social norms may function as inhibitors (Pham, 2024). Accordingly, direct booking intention is closely linked to brand autonomy and distributional control.

The Stimulus–Organism–Response (S-O-R) framework provides a robust conceptual foundation for explaining the relationship between OTA dependence, brand autonomy perception, and direct booking intention. Within this framework, the *stimulus* represents the external factors influencing consumer behavior namely, customers' dependence on OTAs characterized by dominant distribution channels, information transparency, and extensive online reviews (Lv et al., 2020). The *organism* reflects customers' internal psychological states, operationalized in this study as brand autonomy perception. When consumers perceive that a boutique villa maintains strategic control over its pricing, identity, and guest experience despite relying on OTAs, they internalize more positive evaluations of the brand (Bii et al., 2023; Hong & Ahn, 2023). Finally, the *response* manifests in direct booking intention, where consumers express a preference for the property's official channels because they feel greater trust, safety, and connection to the brand's identity (Mohammad et al., 2024; Nguyen et al., 2025). Accordingly, the S-O-R model helps position brand autonomy perception as a psychological mechanism that mediates the influence of OTA dependence on direct booking decisions, thereby reinforcing the theoretical contribution of this study.

From the consumer perspective, dependence on OTAs does not always benefit a hotel's brand. Consumers who frequently rely on OTAs tend to perceive hotels as extensions of the OTA ecosystem rather than as independent entities with distinct brand identities. (Chivandi et al., 2020) found that OTA intermediation weakens the direct relationship between consumers and hotels, thereby reducing the hotel's ability to control customer perceptions. Similarly, Lee et al. (2022) emphasize that the way hotels are presented on OTAs shapes consumer perceptions in ways that often obscure the hotel's differentiation. Therefore, the first hypothesis is proposed as follows:

*H1: Consumer dependence on OTAs negatively affects brand autonomy perception.*

When consumers perceive that a hotel maintains full control over its service delivery without excessive third-party intervention, it enhances the hotel's brand credibility and strengthens emotional connection. This perception significantly increases trust and loyalty key antecedents of direct booking intention. Indiani et al. (2023) found that brand image plays a strong mediating role in driving booking intention, particularly through digital communication and customer experience pathways. Likewise, Mohammad et al. (2024) show that brand image formed through active social interaction increases customer engagement and directly boosts booking intention. In essence, higher brand autonomy perception increases the likelihood that customers will choose direct booking channels because they feel more secure, confident, and emotionally aligned with the hotel.

*H2: Brand autonomy perception positively affects direct booking intention.*

Although OTAs offer convenience and transparency, excessive dependence may weaken customers' intention to book directly. Consumers become accustomed to the competitive pricing, exclusive promotions, and service guarantees provided by OTAs, reducing their motivation to use the hotel's official channels. Chivandi et al. (2020) demonstrate that OTA use intermediates the customer–hotel relationship, making consumers view OTAs as the primary point of contact rather than the hotel brand itself. Lee et al. (2022) similarly found that frequent OTA users perceive hotels as less distinctive because their impressions are shaped by OTA listings rather than the hotel's identity. Thus, OTA dependence reduces perceived brand control and lowers consumers' willingness to book directly.

*H3: Dependence on OTAs negatively affects direct booking intention.*

The relationship between OTA dependence and direct booking intention is not linear but is influenced by how customers perceive the hotel's autonomy. Previous studies show that brand image mediates the relationship between communication strategies and booking intention (Indian et al., 2023), while the quality of online distribution channels affects booking intention through brand evaluation (Kareem & Venugopal, 2023). More recent work reinforces this view: brand image shaped through digital social interactions enhances customer engagement and mediates direct booking intention (Mohammad et al., 2024), while ethical and sustainability perceptions strengthen booking intention through perceived brand value (Seo et al., 2024). The Stimulus–Organism–Response (S-O-R) framework is particularly relevant here, with OTA dependence serving as the stimulus, brand autonomy perception as the organism, and direct booking intention as the response (Nguyen et al., 2025). Thus, brand autonomy perception is viewed as a crucial psychological mechanism that bridges the impact of OTA dependence on booking decisions.

*H4: Brand autonomy perception mediates the effect of OTA dependence on direct booking intention.*

## Methods

This study employs a quantitative research approach to objectively examine causal relationships among variables through numerical data analysis and inferential statistics (Sugiyono, 2023). The sampling technique used is purposive sampling, with respondents required to have stayed in a boutique villa in Bali and made their reservation through an Online Travel Agent (OTA) such as Booking.com, Agoda, or Traveloka or through the property's official website within the past 12 months. The sample size was determined using the 10-times rule in PLS-SEM Hair et al. (2021), which indicated a minimum requirement of 170 respondents. The study successfully collected 192 valid responses, making the dataset sufficient and representative for further analysis. Data were gathered using an online questionnaire administered via Google Forms. A five-point Likert scale was used to measure respondents' level of agreement with statements corresponding to each research variable.

The operational definitions of the variables are as follows. Consumer dependence on OTAs is defined as the extent to which travelers rely on Online Travel Agents to search for accommodation information, compare prices, read reviews, and complete reservations. Indicators include dependence on OTA pricing, OTA-driven visibility, reliance on OTA-based booking, trust in OTA payment systems, reliance on OTA reviews, and habitual use of OTA

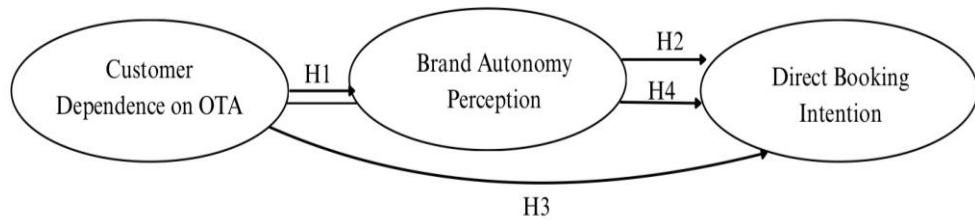
promotions or discounts (Filieri et al., 2015; Jolene, 2023; Lv et al., 2020). Brand autonomy perception refers to customers' perceptions of a hotel or villa's ability to independently control its brand identity, pricing structure, and communication without excessive influence from OTAs. Indicators include control over brand narrative, independence in pricing decisions, ability to deliver unique value propositions, clarity of brand differentiation, and authenticity and consistency of brand storytelling (Bii et al., 2023; Chivandi et al., 2020; Hong & Ahn, 2023). Direct booking intention reflects customers' willingness to make future reservations through the hotel's official channels. Indicators consist of preference for using the official website, willingness to recommend direct booking, trust in official channels, comfort when booking directly, perceived security of transactions, and expectations of receiving better service compared to OTA channels (Christin & Nugraha, 2023; Mohammad et al., 2024; Nguyen et al., 2025).

To analyze the relationships among variables in the proposed model, this study utilizes Structural Equation Modeling–Partial Least Squares (SEM-PLS) with the SmartPLS 4.0 software. This method was selected due to its suitability for complex latent constructs and its ability to evaluate both direct and indirect effects simultaneously (Hair et al., 2021). Through this analytical approach, the study aims to provide a comprehensive understanding of how OTA dependence influences brand autonomy perception and subsequently affects direct booking intention among boutique villa guests in Bali.

## **Results and Discussion**

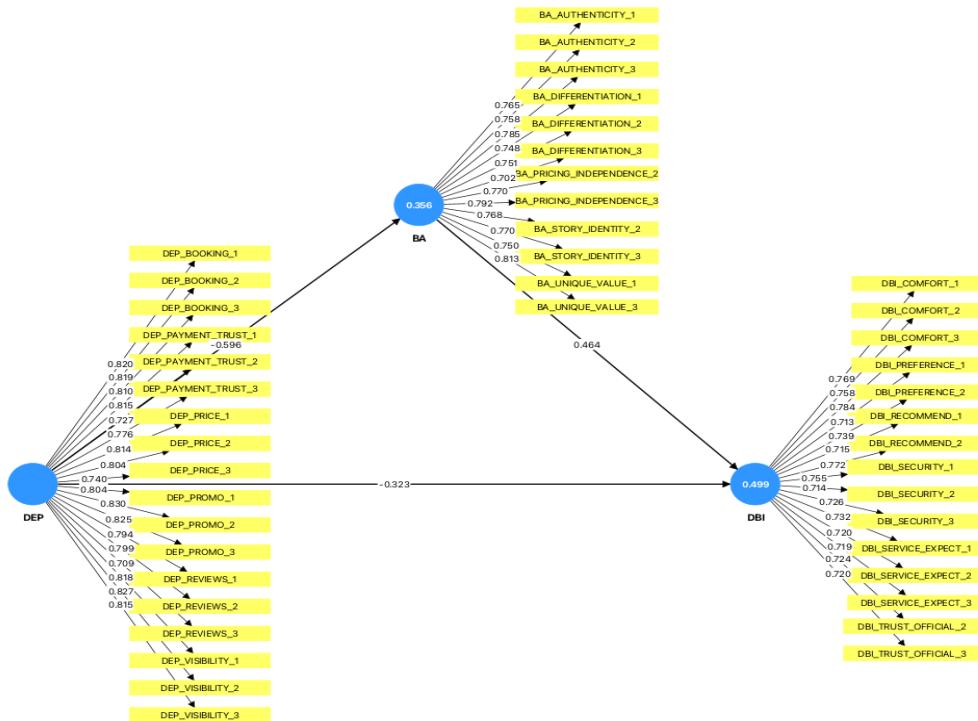
This study involved 192 respondents who had stayed at Visakha Sanur by Puri Signatures, an independent boutique villa in Bali, and had made their reservations either through direct channels or via OTAs. The majority of respondents were male (64.6%), with the dominant age group being 31–40 years old (48.4%), followed by 21–30 years old (36.5%). A smaller proportion were over 40 years old (15%) and under 20 (3%). In terms of nationality, most respondents were international travelers (81.8%), while domestic travelers accounted for 18.2%. Regarding booking experience, 76% of respondents reported using OTAs such as Booking.com, Agoda, and Traveloka, while 19.8% used a combination of OTA and direct channels. Only a small proportion relied exclusively on direct booking through official channels. The frequency of visits also indicates a loyal customer profile: 67.2% had stayed at the property two to three times per year, suggesting consistent engagement with boutique villa experiences while still displaying considerable dependence on OTA platforms during the reservation process.

Furthermore, the predominance of international travelers in the sample reinforces the contextual relevance of boutique villas in Bali as a high-experience segment characterized by strong reliance on OTAs (high OTA dependence). These travelers confirmed that boutique villas in Bali offer culturally rich, personalized, and authentic experiences that align with global consumer expectations for experiential accommodation. The findings therefore support the contextual grounding of this study: boutique villas in Bali operate within a global tourism ecosystem where online reservation platforms play a central role, even as guests actively seek personalized and culturally meaningful lodging experiences.



**Figure 1. Conceptual Framework**

This study examines three main variables: X (Consumer Dependence on OTAs) as the independent variable, M (Brand Autonomy Perception) as the mediating variable, and Y (Direct Booking Intention) as the dependent variable. These variables are used to test both the direct and indirect (mediated) effects of OTA dependence on customers' intention to book directly through the official channels of boutique villas in Bali. The conceptual model presented in Figure 1 illustrates the four hypotheses (H1-H4) that describe the relationships among platform dependence, brand autonomy perception, and direct booking behavior.



**Figure 2. Measurement Model of the Study**

During the assessment of convergent validity, several indicators were eliminated because their loading factor values fell below the recommended threshold of 0.70. This decision was made to maintain the quality of the measurement model and to ensure that

each construct is represented only by indicators that are valid and contribute strongly to the measurement. By removing items that did not meet the required criteria, the remaining indicators provide a more stable and accurate reflective structure, allowing the latent constructs to be measured more precisely. After this refinement process, all retained indicators exhibited satisfactory loading values, confirming that the model fulfills the requirements of convergent validity and is ready to proceed to the subsequent structural analysis.

**Table 2. Eliminated Indicators Based on Outer Loading Assessment**

Variable	Indicator Code	Reason for Elimination
Brand Autonomy (BA)	BA_PRICING_INDEPENDENCE_1	Loading < 0.70
Brand Autonomy (BA)	BA_STORY_IDENTITY_1	Loading < 0.70
Brand Autonomy (BA)	BA_UNIQUE_VALUE_2	Loading < 0.70
Direct Booking Intention (DBI)	DBI_PREFERENCE_3	Loading < 0.70
Direct Booking Intention (DBI)	DBI_RECOMMEND_3	Loading < 0.70
Direct Booking Intention (DBI)	DBI_SERVICE_EXPECT_4	Loading < 0.70
Direct Booking Intention (DBI)	DBI_TRUST_OFFICIAL_1	Loading < 0.70

To ensure the accuracy and reliability of the research instrument, a descriptive statistical analysis was conducted on all observed variables, including Customer Dependence on Online Travel Agents (DEP), Brand Autonomy (BA), and Direct Booking Intention (DBI). The mean values, which range from 3.25 to 3.37, indicate that respondents' evaluations tend to fall near the neutral point. This pattern suggests that tourists did not express extreme judgments regarding their level of dependence on OTAs, their perception of brand autonomy, or their intention to book directly. In other words, international tourists staying in boutique villas in Bali generally assessed these aspects in a moderate manner, without showing strong positive or negative biases in their perceptions. These findings demonstrate that respondents' answers were relatively balanced and stable, allowing the data to be considered sufficiently representative for measuring the relationships among variables within the research model and reflecting consistent responses to each questionnaire item.

**Table 3. Descriptive Statistics**

Variable	Number of Indicators	Mean
Customer Dependence on OTA (DEP)	6	3.25
Brand Autonomy (BA)	5	3.34
Direct Booking Intention (DBI)	6	3.37

The results of the descriptive analysis indicate that the mean values of all indicators fall within the range of 3.25 to 3.37, with a consistent median value of 3.00. This pattern suggests that the data exhibit a relatively symmetrical distribution, supporting the assumption of normality within the dataset. The values also fall within the acceptable range of the five-point Likert scale (1 to 5), indicating that the variation in respondents' answers remains within a reasonable and interpretable span. Overall, these findings demonstrate that the questionnaire items are evenly distributed and able to consistently represent

respondents' perceptions across all measured constructs. Therefore, the data are deemed suitable for further multivariate analysis, including Structural Equation Modeling–Partial Least Squares (SEM-PLS).

The convergent validity test was conducted to ensure that all reflective indicators accurately measure their intended constructs. An indicator is considered valid if it has an outer loading value greater than 0.70 and the Average Variance Extracted (AVE) for each construct exceeds 0.50 (Savitri et al., 2021). These criteria confirm that the indicators share sufficient variance with their underlying latent variables and therefore demonstrate adequate convergent validity.

**Table 4. Convergent Validity Test**

Variable	Loading Range	AVE
Customer Dependence on OTA (DEP)	0.709 – 0.830	0.637
Brand Autonomy (BA)	0.702 – 0.813	0.585
Direct Booking Intention (DBI)	0.713 – 0.784	0.544

The results of the convergent validity test show that all reflective indicators possess outer loading values above 0.70 and Average Variance Extracted (AVE) values greater than 0.50. This confirms that each indicator contributes strongly to representing its respective latent construct. The Customer Dependence on OTA variable demonstrates loading values ranging from 0.709 to 0.830 with an AVE of 0.637; Brand Autonomy shows loading values between 0.702 and 0.813 with an AVE of 0.585; while Direct Booking Intention exhibits loading values ranging from 0.713 to 0.784 with an AVE of 0.544. These findings affirm that all indicators have met the requirements for convergent validity and are therefore appropriate for use in subsequent structural analysis using the Structural Equation Modeling–Partial Least Squares (SEM-PLS) approach.

**Table 5. Discriminant Validity Test (HTMT Ratio)**

Variables	HTMT Value	Threshold	Status
DBI ↔ BA	0.693	< 0.85	Valid
DEP ↔ BA	0.621	< 0.85	Valid
DEP ↔ DBI	0.624	< 0.85	Valid
All Constructs	< 0.85	< 0.85	Valid

The results of the discriminant validity test indicate that all constructs in the model have HTMT values below the recommended threshold of 0.85. Specifically, the HTMT values for the relationships between Customer Dependence on OTA and Brand Autonomy (0.621), Customer Dependence on OTA and Direct Booking Intention (0.624), and Brand Autonomy and Direct Booking Intention (0.693) all fall well within acceptable limits. These results confirm that there is no overlap between the constructs and that each variable is empirically distinct. Therefore, the research model demonstrates adequate discriminant validity and is deemed appropriate for subsequent structural analysis using the Structural Equation Modeling–Partial Least Squares (SEM-PLS) approach.

**Table 6. Construct Reliability Assessment**

Variable	Cronbach's Alpha	Composite Reliability (rho_a)	Composite Reliability (rho_c)
Brand Autonomy (BA)	0.935	0.937	0.944
Direct Booking Intention (DBI)	0.940	0.942	0.947
Customer Dependence on OTA (DEP)	0.966	0.967	0.969

The results of the construct reliability assessment reveal that all variables exhibit Cronbach's Alpha values ranging from 0.935 to 0.966, while the Composite Reliability (rho\_c) values range from 0.944 to 0.969. All values surpass the minimum threshold of 0.70, indicating excellent internal consistency and measurement stability across all constructs. These findings confirm that the research instrument is highly reliable and appropriate for use in the subsequent structural model evaluation under the Structural Equation Modeling-Partial Least Squares (SEM-PLS) approach.

**Table 7. R-square Values**

Dependent Variable	R <sup>2</sup> Value
Brand Autonomy (BA)	0.356
Direct Booking Intention (DBI)	0.499

R-square values are used to measure the extent to which independent variables explain the variance of dependent variables, with values ranging from 0 to 1. According to the guidelines proposed by Hair et al. (2021), R<sup>2</sup> values above 0.75 are considered substantial, values above 0.50 are moderate, and values above 0.25 are weak. The analysis shows that the R<sup>2</sup> value for Brand Autonomy is 0.356, which falls within the weak category. This indicates that Customer Dependence on OTA explains 35.6% of the variance in Brand Autonomy. Meanwhile, the R<sup>2</sup> value for Direct Booking Intention is 0.499, which is classified as moderate. This means that Customer Dependence on OTA and Brand Autonomy, collectively, explain 49.9% of the variance in Direct Booking Intention. These results demonstrate that while OTA dependence has a measurable influence on brand autonomy, the combined effect of OTA dependence and brand autonomy provides a moderately strong explanation for customers' intention to book directly through official channels. This supports the relevance of the mediating mechanism proposed in the conceptual model.

**Table 8. Predictive Relevance (Q<sup>2</sup>)**

Variable	Q <sup>2</sup> _predict Range	Average Q <sup>2</sup> _predict	Interpretation
Brand Autonomy (BA)	0.128 – 0.321	0.198	Medium
Direct Booking Intention (DBI)	0.126 – 0.278	0.195	Medium
Overall Average		0.197	Medium Predictive Relevance

The predictive relevance ( $Q^2$ ) test was conducted to evaluate the model's ability to predict the indicators of the endogenous variables. This assessment applies the PLS-Predict procedure developed by Stone and Geisser and recommended by Hair et al. (2021), where  $Q^2$  values greater than 0.02 indicate small predictive relevance, values above 0.15 indicate medium relevance, and values above 0.35 indicate high predictive relevance. The results show that the  $Q^2$ \_predict values for all endogenous variables exceed 0.02 and fall within the medium prediction category, with an overall average of 0.197. This indicates that the structural model possesses adequate predictive capability and can project the dependent variables with a satisfactory level of accuracy. Therefore, the research model demonstrates sufficient predictive relevance to proceed to the evaluation of inter-variable relationships within the structural model (Structural Equation Modeling–Partial Least Squares / SEM-PLS).

The Goodness of Fit (GoF) index is used to evaluate the overall fit of the research model by combining construct validity (measured through AVE) and predictive accuracy (measured through  $R^2$ ). This calculation follows the approach proposed by Tenenhaus et al. and further developed by Wetzels et al. (2009)). Based on the computed values, the average AVE of 0.589 and the average  $R^2$  of 0.428 produce a GoF value of 0.502. This value exceeds the threshold of 0.36, which is categorized as a substantial model fit. Therefore, the research model is considered to have strong overall quality, both in terms of construct validity and its predictive capability for the dependent variables examined.

**Table 9. Hypothesis Testing Results**

Relationship	Path Coefficient (0)	T-statistic	P-value	Interpretation
DEP → BA	-0.596	12.142	0.000	Significant (Negative)
BA → DBI	0.464	8.354	0.000	Significant (Positive)
DEP → DBI	-0.600	12.002	0.000	Significant (Negative)
DEP → BA → DBI	-0.277	6.781	0.000	Significant (Negative)

The hypothesis testing was conducted using the bootstrapping procedure in SmartPLS 4.0 to evaluate both the direction and statistical significance of the relationships within the structural model. Path coefficients were used to determine the direction of the effects, while T-statistics and p-values were used to assess their significance. The results indicate that Customer Dependence on OTA has a negative and significant effect on Brand Autonomy, with a coefficient of -0.596, a T-statistic of 12.142, and a p-value of 0.000. This result suggests that frequent interaction with OTA platforms frames boutique villas as standardized products rather than independent brands, as platform-controlled layouts, pricing displays, and review systems limit hotels' ability to communicate unique brand identities (Atanasova & Ivanov, 2021; Chivandi et al., 2020).

Furthermore, Brand Autonomy shows a positive and significant effect on Direct Booking Intention, with a coefficient of 0.464, a T-statistic of 8.354, and a p-value of 0.000. This finding aligns with prior studies showing that perceived brand independence enhances affective trust and emotional attachment, encouraging customers to bypass intermediaries and engage directly with official booking channels Herstein et al. (2018), and Kyomba et al. (2022) In addition, Customer Dependence on OTA also exhibits a negative and significant effect on Direct Booking Intention, with a coefficient of -0.600, a T-statistic of 12.002, and a

p-value of 0.000. This relationship reflects channel loyalty bias, where customers repeatedly rely on OTAs due to perceived convenience and familiarity rather than superior value, reducing their motivation to explore direct booking alternatives (Lee et al., 2022; O'Connor et al., 2025).

**Table 10. Summary of Hypothesis Decisions**

Hypothesis Code	Hypothesis Statement	Result	Decision
H1	Customer Dependence on OTA → Brand Autonomy (negative effect)	$\beta = -0.596, p = 0.000$	Accepted
H2	Brand Autonomy → Direct Booking Intention (positive effect)	$\beta = 0.464, p = 0.000$	Accepted
H3	Customer Dependence on OTA → Direct Booking Intention (negative effect)	$\beta = -0.600, p = 0.000$	Accepted
H4	Customer Dependence on OTA → Direct Booking Intention mediated by Brand Autonomy	$\beta = -0.277, p = 0.000$	Accepted

Regarding the mediation effect, the analysis shows that Brand Autonomy acts as a mediator in the relationship between Customer Dependence on OTA and Direct Booking Intention. The mediation coefficient of -0.277, with a T-statistic of 6.781 and a p-value of 0.000, indicates that this indirect effect is statistically significant. This finding is consistent with hospitality studies demonstrating that brand-related perceptions function as psychological mechanisms linking digital channel characteristics and booking behavior (Kareem & Venugopal, 2023). Overall, these results demonstrate that both the direct and indirect effects in the model are significant and aligned with the proposed hypotheses, thereby strengthening the structural validity of the research model.

## Discussions

The findings of this study reveal that dependence on Online Travel Agencies (OTAs) has a deeper impact than merely influencing distribution efficiency. Empirically, higher levels of OTA dependence are associated with lower perceived brand autonomy. OTAs do not function solely as transactional intermediaries; they also operate as brand-framing environments that standardize how boutique villas are presented through photo templates, information structures, pricing formats, and generic feature emphasis. When travelers frequently interact with villas through OTA interfaces, they tend to perceive the property as part of the OTA ecosystem rather than as an independent brand with a distinctive identity. As a result, perceived brand differentiation and brand control decline. This finding aligns with Atanasova and Ivanov (2021), who argue that hotel-OTA relationships are asymmetrical, with platforms regulating visibility and information flow while accommodations lose flexibility in maintaining brand identity. Recent empirical work further supports this argument, demonstrating that OTA dependence constrains managerial autonomy and revenue optimization, thereby necessitating strategic rebalancing between OTA collaboration and direct booking channels (Gabelaia & Gabelaia, 2025).

Within the context of boutique villas in Bali, this effect becomes more pronounced. Boutique villas typically rely on local distinctiveness such as tropical architectural design,

wooden ornaments, private ambience, and cultural narratives to deliver authentic experiences. However, once integrated into OTA systems, these differentiating elements tend to dissolve into standardized platform formats, leading to visual homogenization among listings. As a result, unique villa identities appear increasingly similar to hundreds of competing properties. While some studies suggest that the growth of independent tourism has encouraged travelers to explore and book accommodations directly, thereby strengthening brand autonomy Harun et al. (2024), the findings of this study indicate that OTA standardization still exerts a dominant influence in experiential destinations such as Bali.

Key features such as tropical villa ambience, Balinese carvings, and personalized touches including traditional welcome drinks and local hospitality cues cannot be fully appreciated by travelers who encounter a property solely through the standardized interfaces of Online Travel Agencies (OTAs). This managerial challenge mirrors broader industry patterns, in which boutique and independent hotels increasingly adopt hybrid distribution strategies to maintain brand identity while simultaneously leveraging OTA visibility (Nyathela-Sunday et al., 2024). The erosion of brand autonomy observed in this context reinforces the argument that, in experiential destinations such as Bali, OTA standardization exerts a stronger homogenizing effect compared to business-oriented metropolitan destinations, where functional attributes tend to dominate accommodation choice.

The findings further demonstrate that brand autonomy perception positively influences direct booking intention, a relationship that becomes particularly evident when examined through the operational realities of boutique villas in Bali. Travelers who book directly through official channels, such as property websites, Instagram, Google Maps, or on-site reservations, often receive additional personalized experiences. These may include signature welcome drinks, flexible communication via WhatsApp, or complimentary shuttle services to and from designated locations in Sanur. Such interactions foster emotional closeness and personalized engagement that are largely absent from the transactional nature of OTA-mediated bookings. In this sense, direct booking allows villas to assert brand autonomy through personalization, warmth, and culturally embedded experiences. This finding supports Kyomba et al. (2022), who argue that brand autonomy enhances affective trust, thereby strengthening customers' intention to book directly.

Conversely, customer dependence on OTAs negatively affects direct booking intention. Travelers who habitually rely on OTA platforms develop behavioral inertia, perceiving OTAs as more convenient, secure, and consistent, which encourages repeated use of the same booking channels. This tendency is particularly pronounced among international travelers, who may be less familiar with using WhatsApp or other informal communication tools for reservations, making OTAs their most familiar and trusted option when visiting Bali for the first time. Beyond convenience, the emotional experience associated with OTA interfaces, such as perceived control, simplicity, and regret avoidance, plays a significant role in shaping consumer attitudes and loyalty toward online channels (Jo et al., 2022). This behavioral inertia reflects what Ivanov (2020) describes as a cognitive shift in which OTAs, rather than hotel brands, become the dominant cognitive anchor shaping booking intentions. As a result, travelers often remain unaware of value-added services, including complimentary shuttles, personalized greetings, or flexible arrangements, which are typically available only through direct booking. This pattern aligns with the concept of

channel-loyalty bias, whereby customers continue using the same booking channel due to habit and convenience rather than because it offers the greatest overall value (Lee et al., 2022).

Furthermore, the mediating role of brand autonomy perception highlights its function as a psychological bridge between OTA dependence and direct booking intention. From a resource dependence perspective, hotels can strategically reduce vulnerability to OTA dominance by balancing intermediary visibility with investments in direct digital channels, thereby reinforcing managerial autonomy and market differentiation (Neirotti & Raguseo, 2021). In parallel, perceived relationship quality and digital brand cues embedded within OTA interfaces substantially influence trust and behavioral intentions, determining whether consumers remain within OTA ecosystems or transition toward direct engagement with hotel brands (Giovanis et al., 2022). Additionally, OTA price structures and presentation styles shape perceptions of fairness and value, influencing immediate booking decisions and reinforcing the stimulus-response linkage within the Stimulus-Organism-Response (S-O-R) framework (Kim et al., 2020).

Specifically, the results indicate a partial mediation effect, as both the direct effect of OTA dependence on direct booking intention and the indirect effect through brand autonomy perception remain statistically significant. This finding suggests that OTA dependence influences booking behavior not only directly through habitual platform use but also indirectly by shaping customers' psychological evaluations of brand autonomy, consistent with the Stimulus-Organism-Response (S-O-R) framework. This interpretation aligns with the consumption values perspective, which explains OTA purchase behavior as a function of perceived convenience, trust, and hedonic value, all of which act as stimuli shaping internal brand evaluations (Talwar et al., 2020). Within the S-O-R framework, OTA dependence serves as the stimulus, brand autonomy perception represents the organism as an affective state that interprets and processes the stimulus, and direct booking intention functions as the behavioral response. This mechanism explains why travelers who perceive a villa as an independent entity rather than merely a product within an OTA platform are more inclined to shift toward direct booking channels. Boutique properties can mitigate OTA dependency by emphasizing social media storytelling and authentic brand narratives. At the same time, recent research indicates that customers' emotional attachment and positive online brand experiences significantly reinforce loyalty and habitual behavior toward OTA platforms, aligning with the affective pathway within the S-O-R mechanism (Tran & Chang, 2024). Such digital engagement also strengthens perceived authenticity and can encourage customers to book directly through a hotel's own channels (Demetry & Vlaicu, 2016).

## Conclusion

This study confirms that dependence on Online Travel Agencies (OTAs) affects not only distribution efficiency but also erodes brand autonomy, a critical foundation of authenticity and customer trust in hospitality brands. In the context of boutique villas in Bali, OTA dominance limits cultural differentiation and brand control by standardizing narratives, pricing structures, and customer reviews Atanasova and Ivanov (2021), and O'Connor et al. (2025) At the same time, the findings demonstrate that brand autonomy perception plays a crucial role in enhancing direct booking intention, although habitual reliance on OTA

platforms remains strong due to perceived convenience and safety (Lee et al., 2022). Conceptually, this study extends the Stimulus–Organism–Response (S-O-R) framework by positioning brand autonomy perception as an affective mediator linking OTA dependence and direct booking behavior. From a practical perspective, the findings highlight the importance of hybrid distribution strategies for boutique villa operators in Bali. While OTAs remain essential for international visibility, direct channels should be strengthened to communicate cultural identity, personalization, and authentic brand experiences that cannot be fully conveyed through standardized OTA interfaces.

This study is subject to several limitations. First, it focuses exclusively on boutique villas in Bali, which may limit the generalizability of the findings to other accommodation types or destinations. Second, the cross-sectional design captures consumer perceptions at a single point in time and does not reflect potential behavioral changes as digital booking platforms evolve. Future research may adopt comparative or longitudinal approaches and incorporate additional psychological mechanisms, such as perceived authenticity or trust, to further extend the S-O-R framework in hospitality contexts.

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