

Factors Influencing Online Hotel Booking Applications and Booking Outcomes: A Dual-Perspective Measurement Study from Consumers and Hoteliers in Kalyana Karnataka, India

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Abstract

Online hotel booking platforms have become an essential interface for hotel search, comparison, reservation, and customer engagement. This study examines the underlying dimensions of online hotel booking applications from both consumer and hotelier perspectives in the Kalyana Karnataka region of Karnataka, India. Data were collected from 400 respondents, including 200 customers and 200 hoteliers, using a structured questionnaire administered in English and Kannada through personal interaction and Google Forms. The study employed exploratory factor analysis and confirmatory factor analysis to evaluate factor structure, internal consistency, convergent validity, discriminant validity, and overall model fit. The findings indicate strong sampling adequacy, significant factorability, high reliability, robust convergent validity, satisfactory discriminant validity, and excellent measurement model fit across both respondent groups. The results demonstrate that online hotel booking behavior is shaped by multidimensional consumer and provider perceptions and that the proposed measurement framework is statistically sound for future hypothesis testing and advanced modelling.

Keywords: Online hotel booking, Consumer behavior, Hotelier perspective, Factor analysis, Measurement model, Kalyana Karnataka.

Introduction

The rapid expansion of digital technology has transformed the hospitality industry by shifting hotel discovery and reservation behavior from offline channels to online platforms. Online hotel booking applications now play a central role in how customers search for hotels, compare alternatives, evaluate service quality, and complete reservations. For hotels, these platforms influence visibility, booking efficiency, customer engagement, and long-term business performance. As a result, online booking systems are no longer just transaction tools; they are strategic service environments that shape both user experience and business outcomes.

Despite their growing importance, online hotel booking platforms are often studied from only one perspective, usually the customer side. Less attention has been given to the hotelier perspective, even though hotel owners and managers rely on these platforms for bookings, communication, promotion, and retention. A dual-perspective examination is therefore necessary to understand how platform features operate for both users and providers. This study addresses that need by developing and validating measurement models for consumer booking behavior and hotelier-perceived platform effectiveness in the Kalyana Karnataka region.

Literature Background

Research on digital hospitality services suggests that booking platforms are evaluated through multiple dimensions, including usability, information quality, trust, security, convenience, personalization, and service support. Consumers typically prefer platforms that offer transparent pricing, trustworthy reviews, easy navigation, secure payments, and efficient support after booking. These factors reduce uncertainty and improve confidence in the reservation process. In contrast, hoteliers focus on how platforms contribute to customer acquisition, business growth, loyalty generation, retention, and operational efficiency.

The consumer-side constructs in this study reflect these broader themes. Sustainability, security, information, personalization, convenience, assurance, usability, responsiveness, and loyalty capture the kinds of platform features that influence booking decisions and repeat use. Similarly, the consumer outcome construct—preference, trust, engagement, and commitment—reflects the behavioral and attitudinal consequences of platform use. Together, these dimensions align with the idea that digital platform adoption is driven by both functional and relational value.

The hotelier-side constructs also reflect an expanded understanding of platform effectiveness. Customer support, service quality, experience personalization, customer engagement, booking efficiency, platform trust, information accessibility, and service recovery represent the operational and strategic factors by which hotels assess online booking platforms. The outcome dimensions—business growth, customer loyalty, booking influence, and customer retention—show that hotel performance depends not only on reservation volume but also on the quality and durability of customer relationships. This dual structure strengthens the relevance of the study for hospitality research.

Research Gap

Although many studies have examined online booking behavior, most have concentrated on customers alone. Fewer studies have developed parallel measurement models that compare consumer perceptions with hotelier perceptions in the same service context. This limits understanding of how platform features are interpreted across stakeholders who use the same technology for different purposes. The present study fills this gap by validating separate but related constructs for consumers and hoteliers in one regional hospitality context.

Another gap lies in the limited psychometric validation of online hotel booking constructs in smaller regional settings. Much of the literature is centred on larger metropolitan or national samples, while local hospitality ecosystems remain underrepresented. By focusing on Kalyana Karnataka, this study contributes region-specific evidence while also offering a measurement framework that can be adapted for future studies in similar contexts.

Objectives

The study was designed with the following objectives:

- To identify the key dimensions of online hotel booking applications from the consumer perspective.
- To examine the factors that shape consumer online booking behavior.
- To identify the major dimensions of online hotel booking platform applications from the hotelier perspective.
- To assess the effectiveness of online booking platforms from the hotelier perspective.
- To evaluate the reliability, convergent validity, discriminant validity, and model fit of the proposed measurement structures.

Methodology

This study adopted a descriptive, instrument-validation design using primary survey data. The target population comprised consumers and hoteliers associated with online hotel booking platform applications in the Kalyana Karnataka region, particularly in Ballari and Vijayanagara districts. Convenience sampling was used to select respondents who were available and willing to participate. The final sample consisted of 400 respondents, with 200 customers and 200 hoteliers.

A structured questionnaire was used to collect data in both English and Kannada, which allowed respondents to answer in a language they could understand comfortably. Data collection was conducted through personal interaction and Google Forms to improve reach and practical feasibility. The consumer-side analysis examined the factor structure of online hotel booking applications and consumer online booking behavior. The hotelier-side analysis examined the factor structure of online booking platform applications and online booking platform effectiveness.

Exploratory factor analysis was used to identify the latent dimensions underlying each set of items, while confirmatory factor analysis was used to validate the measurement models. Reliability was assessed using Cronbach's alpha, ordinal alpha, and McDonald's omega. Convergent validity was evaluated using average variance extracted, and discriminant validity was tested using HTMT ratios. Model fit was examined using indices such as χ^2/df , SRMR, RMSEA, CFI, TLI, NFI, IFI, and PNFI.

Consumer Findings

The consumer-side exploratory factor analysis showed excellent sampling adequacy, with a KMO value of 0.953, and Bartlett's test of sphericity was significant, $\chi^2(3240) = 23910.874$, $p < .001$. These results indicate that the data were highly suitable for factor analysis. Nine factors were extracted for online hotel booking applications, explaining 70.928% of the cumulative variance. The extracted factors were sustainability, security, information, personalization, convenience, assurance, usability, responsiveness, and loyalty.

Table No 1: KMO and Bartlett's Test (Factors of Online Hotel Booking Apps)

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.			.953
Bartlett's Test of Sphericity	Approx. Chi-Square		23910.874
	df		3240
	Sig.		0.000

Source: SPSS Output

The consumer online booking behavior construct also showed strong factorability, with a KMO value of 0.936 and significant Bartlett's test results, $\chi^2(276) = 5660.396$, $p < .001$. Four factors were extracted—preference, trust, engagement, and commitment—explaining 71.152% of the variance. This indicates that consumer booking behavior is multidimensional and reflects both attitudinal and behavioral responses to the platform.

The consumer-side reliability and validity results were strong. Cronbach's alpha values ranged from 0.905 to 0.956 for the platform factors, and AVE values ranged from 0.616 to 0.804. For consumer online booking behavior, Cronbach's alpha values ranged from 0.915 to 0.921, with AVE values ranging from 0.765 to 0.782. HTMT ratios were well below 0.90, supporting discriminant validity. The confirmatory factor analysis demonstrated excellent fit, with $\chi^2/df = 0.573$, SRMR = 0.039, RMSEA = 0.009, CFI = 1.000, TLI = 1.004, NFI = 0.994, IFI = 1.004, and PNFI = 0.957.

Confirmatory Factor Analysis – Measurement Factor Model For Online Hotel Booking Applications – Customer Perspective

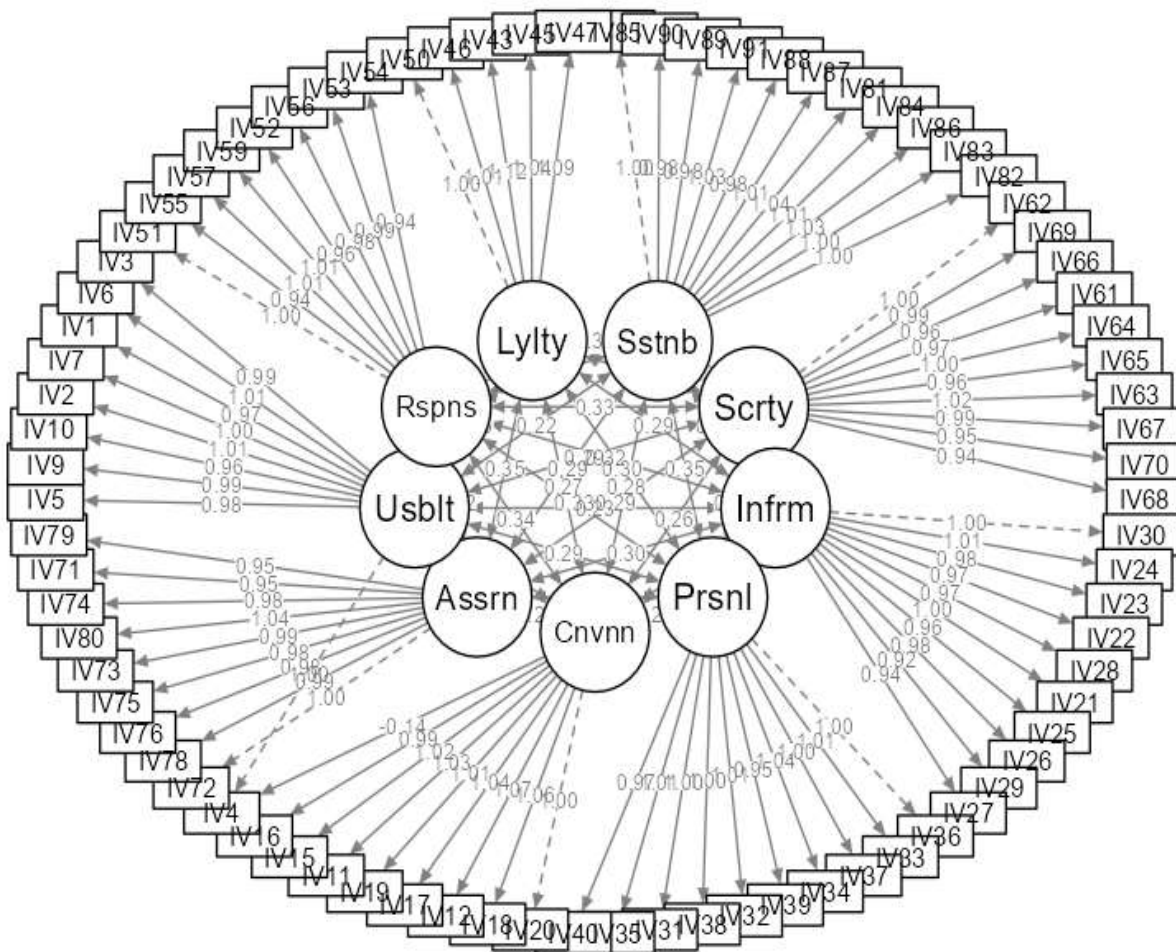
Table No 2: Summary of Model Fit Indices for the Measurement Model of Factors of Online Hotel Booking Applications

Fit Index	Obtained Value	Recommended Value	Model Fit
χ^2/df	0.573	< 3.00	Excellent Fit
SRMR	0.039	< 0.08	Excellent Fit
RMSEA	0.009	< 0.06	Excellent Fit
RMSEA 90% CI	0.000 – 0.015	< 0.08	Excellent Fit
RMSEA p-value	1	> 0.05	Excellent Fit
CFI	1	> 0.90	Excellent Fit
TLI	1.004	> 0.90	Excellent Fit
NFI	0.994	> 0.90	Excellent Fit
IFI	1.004	> 0.90	Excellent Fit
PNFI	0.957	> 0.50	Excellent Fit

Note: All model fit indices satisfied the recommended threshold values, indicating that the measurement model demonstrated an excellent fit with the observed data.

Source: JAMOVl Output

Path Diagram - Measurement Factor Model For Online Hotel Booking Applications



Source: JAMOVl Output

Consumer Interpretation

The consumer findings suggest that online hotel booking behavior is driven by both practical and psychological concerns. Security and information quality reduce uncertainty, while usability and convenience make the platform easier to adopt and reuse. Personalization and loyalty features encourage repeat visits, while responsiveness and assurance improve the customer's sense of support after booking. Sustainability also emerged as a meaningful theme, indicating that some consumers evaluate booking platforms through broader ethical and responsible travel expectations.

The four consumer outcome dimensions further show that platform use is not limited to one-time reservation behavior. Preference reflects platform choice, trust represents confidence in the service, engagement reflects active involvement, and commitment represents long-term attachment. Together, these outcomes suggest that booking platforms influence both immediate transaction behavior and longer-term customer relationships.

Hotelier Findings

The hotelier-side exploratory factor analysis showed good sampling adequacy, with a KMO value of 0.863, and Bartlett's test was significant, $\chi^2(3081) = 16375.817$, $p < .001$. Eight factors were extracted

for online hotel booking platform applications, explaining 76.498% of the cumulative variance. These factors were customer support, service quality, experience personalization, customer engagement, booking efficiency, platform trust, information accessibility, and service recovery.

Table No 3 : KMO and Bartlett's Test- Factors Affecting Online Hotel Booking Applications (Hotelier)

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.863
Bartlett's Test of Sphericity	Approx. Chi-Square	16375.817
	Df	3081
	Sig.	0.000

Source: SPSS Output

For online booking platform effectiveness, the KMO value was 0.893 and Bartlett's test was significant, $\chi^2(210) = 4679.430$, $p < .001$. Four factors were extracted—business growth, customer loyalty, booking influence, and customer retention—explaining 84.404% of the variance. This indicates that hotels judge platform effectiveness through business and relationship outcomes rather than only technical performance.

Reliability and validity were also excellent on the hotelier side. Cronbach's alpha values ranged from 0.955 to 0.970 for the platform factors, and AVE values ranged from 0.848 to 0.877. For online booking platform effectiveness, Cronbach's alpha values ranged from 0.939 to 0.965, and AVE values ranged from 0.867 to 0.952. HTMT ratios were very low, ranging from 0.028 to 0.116, confirming discriminant validity. The confirmatory factor analysis showed strong fit, with $\chi^2/df = 1.667$, SRMR = 0.085, Robust SRMR = 0.074, RMSEA = 0.058, CFI = 0.999, TLI = 0.999, NFI = 0.998, IFI = 0.999, and PNFI = 0.869.

Confirmatory Factor Analysis – Measurement Factor Model For Online Hotel Booking Applications – Hotelier Perspective

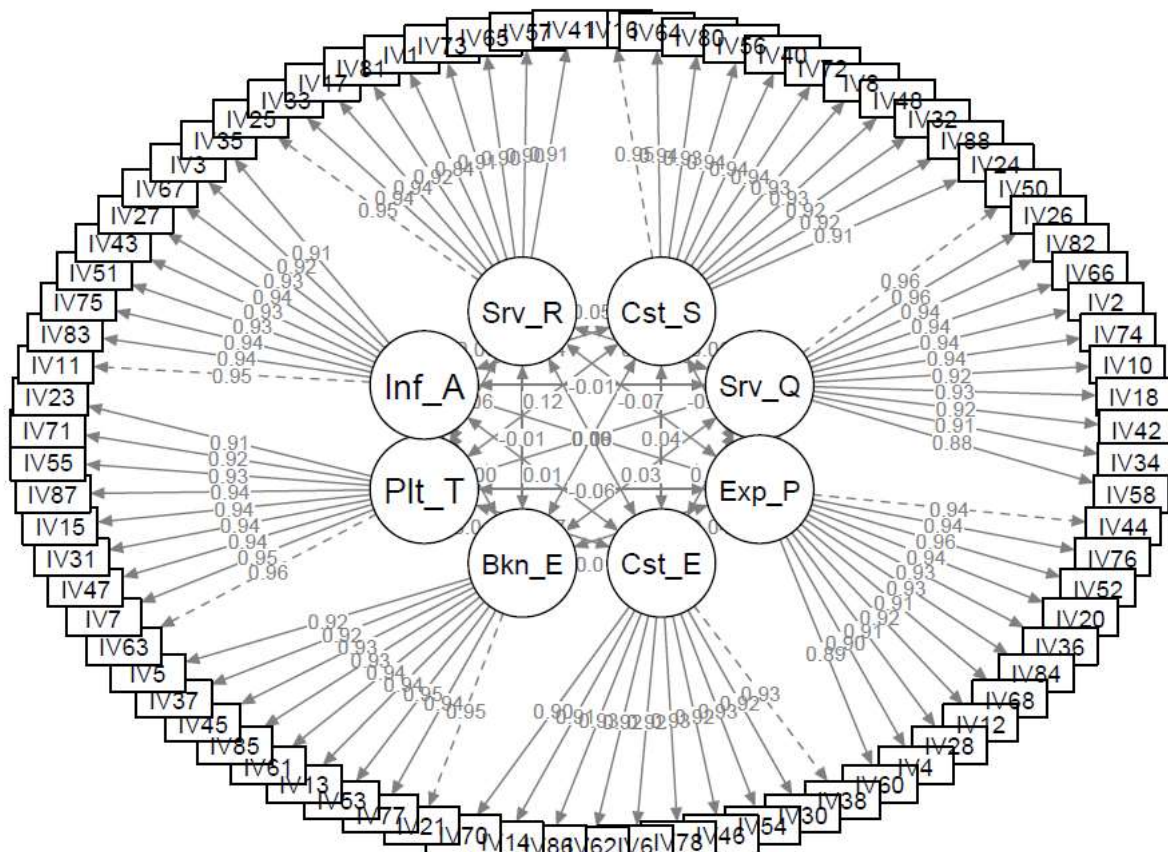
Table No 4: Summary of Model Fit Indices for the Measurement Model

Fit Index	Obtained Value	Recommended Value	Model Fit
χ^2/df	0.455	< 3.00	Excellent Fit
Scaled χ^2/df	0.995	< 3.00	Excellent Fit
SRMR	0.05	< 0.08	Excellent Fit
Robust SRMR	0.048	< 0.08	Excellent Fit
RMSEA	0	< 0.06	Excellent Fit
RMSEA 90% CI	0.000 – 0.014	< 0.08	Excellent Fit
RMSEA p-value	1	> 0.05	Excellent Fit
CFI	1	> 0.90	Excellent Fit
TLI	1.006	> 0.90	Excellent Fit
NNFI	1.006	> 0.90	Excellent Fit
RNI	1.006	> 0.90	Excellent Fit
NFI	0.995	> 0.90	Excellent Fit
RFI	0.995	> 0.90	Excellent Fit

IFI	1.006	> 0.90	Excellent Fit
PNFI	0.96	> 0.50	Excellent Fit

Source: Compiled through JAMOMI Output

Path Diagram - Measurement Factor Model For Online Hotel Booking Applications – Hotelier Perspective



Source: JAMOMI Output

Hotelier Interpretation

The hotelier findings show that platform effectiveness is tied to how the system supports hotel operations and customer relationships. Customer support, service quality, and service recovery matter because they help hotels maintain service reliability and manage problems effectively. Booking efficiency and information accessibility are especially important because they reduce operational friction and improve conversion. Experience personalization and customer engagement show that hotels also value platforms that help sustain long-term interaction and competitive differentiation.

The hotelier outcome construct shows that platform effectiveness extends beyond transaction handling. Business growth reflects the commercial value of the platform, customer loyalty reflects repeat patronage, booking influence reflects the platform's role in decision-making, and customer retention reflects long-term relationship building. In combination, these results show that hotels evaluate digital platforms as strategic business tools rather than simple booking channels.

Discussion

The overall pattern of results supports the idea that online hotel booking platforms are multidimensional systems shaped by user trust, platform convenience, information quality, and relationship-building mechanisms. On the consumer side, the strongest themes emphasize confidence, efficiency, and personalized experience. On the hotelier side, the strongest themes emphasize support, operational effectiveness, and customer retention. This difference is important because it shows that consumers and hoteliers evaluate the same platform through different but complementary lenses.

The high reliability and validity values across all constructs indicate that the measurement instruments are stable and well defined. The HTMT values further confirm that the constructs are conceptually distinct and do not overlap excessively. The excellent model fit values support the adequacy of the proposed factor structures and suggest that the survey items were appropriate for the study context. Overall, the findings demonstrate that the measurement framework is statistically robust and suitable for future structural testing.

Implications

The study has practical implications for hotel managers, platform developers, and marketers. For consumers, platforms should focus on secure transactions, clear information, personalized recommendations, intuitive navigation, responsive support, and flexible service policies. For hoteliers, platform providers should improve booking efficiency, service recovery, customer support, and tools that strengthen loyalty and retention. These actions can improve both user satisfaction and hotel performance.

The study also has theoretical value because it validates a dual-perspective model of online hotel booking behavior and platform effectiveness. By showing that consumers and hoteliers perceive platform value through different but related dimensions, the study adds nuance to the literature on digital hospitality services. It provides a measurement foundation for future studies that examine causal relationships, mediation, moderation, or comparative behavior across regions and segments.

Limitations and Future Work

This study is limited by its convenience sampling approach, which may restrict generalizability beyond the selected districts. The research is also cross-sectional, so it captures perceptions at one point in time rather than changes over time. In addition, the study focuses on measurement validation rather than testing causal hypotheses between constructs.

Future research could use probability sampling, larger regional samples, and longitudinal designs to strengthen generalizability and explanatory power. Researchers could also test structural relationships between platform features, booking behavior, and hotel outcomes using SEM or PLS-SEM. A comparative study across different states, tourist regions, or types of hotels could also provide deeper insight into context-specific platform use.

Conclusion

This study validates a dual-perspective measurement framework for online hotel booking applications and their outcomes in the Kalyana Karnataka region. The consumer and hotelier models both demonstrated strong factor structures, excellent reliability, satisfactory convergent and discriminant validity, and good to excellent model fit. The findings suggest that online booking platforms influence

behavior and business performance through a combination of trust, usability, service quality, personalization, and relationship-building features.

The study contributes a strong foundation for future empirical research on digital hospitality services. It also offers practical direction for hotels and platform providers seeking to improve customer experience, booking efficiency, and long-term competitiveness.

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