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Research Article

Click to Destination: A Framework for Assessing Opportunities and Challenges in Online Travel Agencies for Consumers

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ABSTRACT

Online Travel Agencies (OTAs) have become integral to modern travel planning, offering consumers a convenient platform to book various travel services. This study aims to create a relevant and accurate conceptual framework for evaluating consumers' viewpoints on the difficulties and possibilities offered by OTAs. Opportunities and problems related to OTAs have been found through a comprehensive review of existing literature. After identifying these factors, exploratory factor analysis (EFA) was conducted to determine the underlying structure of the factors, using the first half of respondent, (n=201). Confirmatory factor analysis (CFA) was conducted to validate the factors and structured framework, using second half of respondent (n=201). The results revealed that Benefits Offered, Quality and Convenience, Ease of Use, Responsiveness, and Customization are the perceived opportunities while Uncertainty Risk, Privacy & Security Issues, Confusion, Technical Issues and Usage Constraints Issues are the perceived challenges of OTAs.

Keywords: Consumers' Perspective; Opportunities; Challenges; OTAs

Introduction

OTAs are websites or platforms that allow consumers to book various travel-related services such as flights, hotels, car rentals, cruises, and activities online (Stivala, 2022). The online travel agencies typically aggregate information from multiple travel service providers and offer users the ability to compare prices, read reviews, and make reservations conveniently through their platforms (Wu et al., 2024; Singh et al., 2023). Some of the most prominent OTAs include Expedia, Booking.com, Priceline, Airbnb, TripAdvisor, Kayak, and Agoda (Alom et al., 2024). OTAs have emerged as pivotal platforms in the travel industry, revolutionizing how travelers plan, book, and manage their trips. (Chu, 2023). The genesis of OTAs marked a paradigm shift in travel distribution, evolving from rudimentary flight booking systems to sophisticated platforms offering a gamut of travel services. Technological advancements, coupled with the surge in internet usage, have propelled the exponential growth of OTAs, transforming them into indispensable entities within the travel ecosystem (Buhalis & Law, 2008; Xie et al., 2016; Buhalis et al., 2019). From flight reservations to comprehensive vacation packages, OTAs have diversified their offerings, capturing a significant share of the global travel market. Understanding consumer behavior is pivotal in elucidating the factors driving the widespread adoption of OTAs. Research suggests that consumers are drawn to OTAs due to their accessibility, price transparency, and user-friendly interfaces (Gan et al., 2019). Additionally, the availability of extensive travel information, coupled with personalized recommendations and loyalty programs, enhances the allure of OTAs among travelers (Arzaghi et al., 2023; Zhang et al., 2019). Trust, security, and social influence further contribute to the burgeoning usage of OTAs in travel planning and booking (Gretzel & Yoo, 2008). OTAs offer a plethora of advantages to both consumers and travel suppliers (Christodoulidou et al., 2010). For consumers, OTAs serve as convenient platforms for comparing prices, reading reviews, and accessing a myriad of travel options (van Rensburg, 2014; Book et al., 2018). Despite their widespread adoption, OTAs grapple with several challenges and limitations. Pricing transparency, hidden fees, and fluctuating prices erode consumer trust and satisfaction (Talwar et al., 2020a; Kumar & Kumar, 2023).This paper aims to delve into the landscape of OTAs, exploring their opportunities and challenges

for consumer and offer suggestions to online travel agencies and travel agents for enhancing the opportunities and eliminating challenges of online travel agencies to the consumers.

The following is the structure of this article**:** the second section is of related literature showing the previous work done in the same domain, rationale of the study and research objectives. The third section provides an overview of the methodology employed in this research. The fourth section dives into exploration and confirmation of scale by using EFA and CFA. In the fifth section, the findings are presented. The sixth section provides the recommendations to the OTAs and to the government. The study's conclusion and implications are summarized in the seventh section, whereas its limitations and future scope are discussed in the eighth section.

Related Literature

Online Travel Agencies

The introduction of OTAs in India can be traced back to the early 2000s when the internet began to gain widespread popularity. Initially, OTAs primarily focused on facilitating flight bookings, providing travelers with a convenient platform to compare fares and make reservations online (Koo et al., 2011; Dudás et al., 2017). Companies like MakeMyTrip, Cleartrip, and Yatra were among the pioneers in this space, offering users the ability to book flights, hotels, and holiday packages through their websites (Shah & Shah, 2009; Venkatesh & Majumder, 2021). Over time, these platforms expanded their offerings to include a wide range of travel-related services, catering to the diverse needs and preferences of Indian travelers (Chakravarthi & Gopal, 2012; Watts & Parks, 2018). The evolution of OTAs in India has been characterized by rapid technological advancements and changing consumer behavior (Chakravarty, 2024). With the proliferation of smartphones and affordable mobile data plans, OTAs have shifted their focus towards mobile-based booking platforms, offering users greater convenience and accessibility (Tussyadiah & Wang, 2016; Espinet, 2019; Park & Huang, 2017). Additionally, OTAs have embraced emerging technologies such as artificial intelligence and machine learning to enhance user experience and personalize recommendations (Huang et al., 2022; Bag et al., 2022). The introduction of digital payment solutions and loyalty programs has further contributed to the growth and evolution of OTAs in India (Bhattacharya & Mishra, 2015; Arora, 2019). The proliferation of OTAs in India has been fueled by factors such as increasing internet penetration, rising disposable incomes, and a growing preference for online booking channels (Singh, 2023a). Today, the Indian OTA market is highly competitive, with numerous players vying for market share (Visalakshi, 2023). In addition to established players like MakeMyTrip, Cleartrip, and Yatra, there are also regional and niche OTAs catering to specific segments of the market (Chakravarty, 2024). The entry of international players like Expedia and Booking.com has further intensified competition within the Indian OTA industry, offering consumers a wide range of options for planning and booking their travel (Garcia et al., 2022).

Online Travel Agencies and Consumers

Research indicates a shift in consumer behavior towards online channels for travel planning and booking (Xiang et al., 2015). OTAs have become increasingly popular among travelers due to their accessibility, user-friendly interfaces, and competitive pricing (Buhalis & Foerste, 2015; Hien et al., 2024). Studies suggest that factors such as website design, information availability, and perceived trustworthiness influence consumers' decisions to use OTAs for their travel needs (Fesenmaier et al., 2006; Pinto & Castro, 2019). OTAs offer several advantages to consumers, including convenience, time-saving, and cost-effectiveness (Talwar et al., 2020). By aggregating travel options from various suppliers, OTAs provide consumers with a comprehensive platform to compare prices, read reviews, and make informed decisions (Xie et al., 2016). OTAs offer several advantages to consumers, like loyalty programs, discounts, and personalized recommendations enhance the value proposition for consumers, fostering repeat usage and brand loyalty (Jolene, 2023; Koo et al., 2020). The future of OTAs lies in innovation, adaptation, and addressing evolving consumer needs (Xiang et al., 2015). Emerging technologies such as artificial intelligence, virtual reality, and blockchain have the potential to enhance the user experience, personalize offerings, and improve trust and transparency (Roy & Pagaldiviti, 2023). Furthermore, strategic partnerships, sustainable practices, and community engagement present opportunities for OTAs to differentiate themselves and create value for consumers (Gretzel & Yoo, 2008).

Opportunities of OTAs for consumers

The rise of OTAs has revolutionized the travel industry, offering consumers an extensive array of opportunities to enhance their travel experiences (Inversini & Masiero, 2014; Morosan & Bowen, 2018). This literature review examines the multifaceted advantages that OTAs provide to consumers, encompassing convenience, customization, cost-effectiveness, and decision-making support (Ivanova, 2019). One of the primary benefits of OTAs is the

unparalleled convenience and accessibility they offer consumers (Gupta et al., 2019; Stivala, 2022). This accessibility empowers consumers to research destinations, compare prices, and make reservations at their convenience, thus saving time and effort in the process (Xiang et al., 2015). OTAs offer consumers an extensive range of choices and customization options in travel planning (Chakravarthi & Gopal, 2012; Scholl-Grissemann & Schnurr, 2016). Advanced search and filtering tools enable consumers to refine their search criteria based on specific requirements such as location, amenities, price range, and user ratings, facilitating highly tailored and personalized travel experiences (Espinet, 2019).

Consumers benefit from the cost-effectiveness and savings facilitated by OTAs through competitive pricing and exclusive deals (Talwar et al., 2020; Chang et al., 2019). Transparency in pricing and the ability to compare prices across different dates and suppliers enable consumers to make informed decisions and capitalize on the best available offers, maximizing their travel budget (Pinto & Castro, 2019; Chang et al., 2019). OTAs serve as invaluable sources of information and resources for consumers, offering comprehensive insights and support throughout the travel decision-making process (Yerby, 2012; Lee & Chung, 2019). Interactive maps, virtual tours, and destination guides further enrich the travel planning experience, inspiring travelers to explore new destinations and activities (Pencarelli, 2020; Hsu et al., 2016).The opportunities provided by OTAs contribute to enhanced consumer satisfaction and loyalty Moreover, loyalty programs, discounts, and incentives offered by OTAs incentivize consumers to continue using their platforms for future travel needs, further solidifying brand loyalty and advocacy (Rizal et al., 2020; Prassida et al., 2021).

Challenges of OTAs for consumers

OTAs have transformed the travel industry, offering consumers convenient platforms to plan, book, and manage their travel arrangements. However, alongside the benefits, OTAs also present various challenges that consumers may encounter (Talwar et al., 2020a; Agag & El-Masry, 2016). This literature review aims to explore these challenges, encompassing issues related to pricing transparency, information overload, trust, privacy, customer service, and the impact of intermediaries on the travel experience (Ivanova, 2019). One of the primary challenges for consumers when using OTAs is the lack of transparency in pricing. Granados et al., 2003; Beritelli & Schegg, 2016). Studies have shown that OTAs often display initial prices that do not include additional fees or taxes, leading to price discrepancies and unexpected costs during the booking process (Xue et al., 2020; Yang & Leung, 2018). Hidden fees, such as booking charges, resort fees, or taxes, can significantly impact the overall cost of the trip and erode consumer trust in OTA platforms (Chen & Yuan, 2014). The abundance of options and information available on OTAs can overwhelm consumers, making it challenging to navigate through the plethora of choices (Novak et al., 2000; Xiang & Gretzel, 2010; Jo et al., 2022).

Research suggests that consumers may experience decision complexity and information overload when faced with numerous travel packages, accommodations, and activities on OTA platforms, leading to decision paralysis or dissatisfaction with their choices (Lu & Gursoy, 2015; Park & Jang, 2013; Guillet et al., 2020). However, concerns regarding the accuracy of information, security of personal data, and reliability of third-party vendors may deter consumers from fully trusting OTA platforms (Gan et al., 2019; Gefen, 2000). Studies indicate that negative experiences, such as misleading advertisements, payment issues, or inadequate customer service, can undermine consumer trust and loyalty towards OTAs (Kuo et al., 2015). Research highlights that consumers are apprehensive about sharing sensitive information, such as credit card details or travel preferences, due to fears of data breaches, identity theft, or unauthorized use of their personal data (Hille et al., 2015). Studies have identified issues such as long wait times, language barriers, and ineffective resolution of customer complaints as common challenges faced by consumers when dealing with OTA customer service representatives (Liu et al., 2021). Research suggests that reliance on OTAs may diminish the direct interaction between consumers and travel service providers, resulting in a loss of personalized service, cultural immersion, and authentic local experiences (Lee & Lee, 2021; Tomczyk et al., 2022). Balancing the role of intermediaries with the desire for authentic travel experiences presents a significant challenge for consumers in the digital age (Pencarelli, 2020).

Rationale of the study

While significant advancements have been made in understanding OTAs and their impact on consumer behavior, several gaps remain in the literature:

Existing studies often focus on isolated aspects of OTAs, such as technological features, pricing strategies, or user experience (Law et al., 2018; Xiang et al., 2015a). There is a lack of comprehensive frameworks that holistically address both the opportunities and challenges faced by consumers when interacting with OTAs. This gap hinders a

complete understanding of the dynamics at play. Much of the current research overlooks a thorough exploration of the consumer's perspective in the context of OTAs. Studies frequently aggregate consumer feedback without systematically categorizing and validating the perceived opportunities and challenges (Buhalis & Law, 2008; Gretzel et al., 2006). There is a need for a framework that specifically captures and validates consumer viewpoints on the various aspects of OTAs. Existing research tends to neglect emerging challenges such as privacy concerns, data security, and the impact of new technologies (e.g., AI, machine learning) on consumer trust and experience (Morosan & DeFranco, 2016; Tussyadiah et al., 2017).

A contemporary framework is needed to address these issues comprehensively, reflecting the current technological and regulatory landscape. Many theoretical models and proposed frameworks in the field lack empirical validation. There is a notable gap in studies that not only conceptualize the opportunities and challenges but also rigorously test and validate these frameworks with empirical data (Choi et al., 2007; Kim et al., 2009).

This is showing the significance and need of research to identify and validate the framework for measuring the opportunities and challenges of OTAs from consumers' perspective. By navigating through the complexities of consumer behavior, addressing challenges, and embracing opportunities, OTAs can continue to redefine travel experiences and maintain their prominence in an ever-evolving industry. These are the following research objectives to fill the current gap:

Research Objectives

• To identify the opportunities and challenges of online travel agencies from consumers perspective.

• To conceptually develop and validate the framework for measuring the opportunities and challenges of online travel agencies from consumers' perspective.

• To offer suggestions to online travel agencies and travel agents for enhancing the opportunities and eliminating challenges of online travel agencies to the consumers.

Research Methodology

The study was conducted among users of OTAs in the state of Haryana. The data was acquired using purposive sampling, which involved gathering information from users of OTAs (Online Travel Agencies) as well as potential consumers. In order to accomplish the stated goal, a systematic survey was administered to 600 participants, and 423 completed surveys were collected. Following the process of data cleansing, a total of 402 questionnaires were identified as eligible for inclusion in the study. The study seeks to create a methodology for quantifying customers' assessment of the opportunities and problems presented by OTAs. A set of statements was created for each opportunity and difficulty of OTAs to facilitate framework development.

Table 1 Demographic Profile of Respondents

Demographics	Frequency
Gender	
Male	214 (53.23%)
Female	188 (46.77%)
Age Group	
18-29	223 (55.47%)
30-39	117 (29.10%)
40-49	44 (10.95%)
50 and above	18 (04.47%)
Qualification	
Under Graduate	24 (05.97%)
Graduate	168 (41.79%)
Post Graduate	132 (32.84%)
Doctorate	51 (12.69%)
Professional	21 (05.22%)
Others	6 (1.49%)
Monthly Income	
Below 20,000	126 (31.34%)
20,000-50,000	190 (47.26%)

50,000-1,00,000	50 (12.44%)
1,00,000 and above	36 (08.95%)

The assessment of opportunities and challenges of OTAs being studied was conducted using a five-point scale, ranging from 'strongly disagree' to 'strongly agree'. A total of twenty statements were discovered for opportunities, while nineteen statements were recognized for obstacles. To enhance the presentation of the data, the opportunities are assigned codes from Opp1 to Opp20, while the difficulties are coded as Chall1 to Chall19. The factor analysis table presents the specific components for both the opportunities and challenges. In order to examine the fundamental factor structure regarding the potential and challenges of OTAs from the viewpoint of customers, a principal component analysis of exploratory factor analysis (EFA) was performed utilizing the first half of the replies (n=201). Five factors were examined to identify potential opportunities, while another set of five factors were examined to identify the challenges. In order to verify the factors and structured framework, Confirmatory Factor Analysis (CFA) was performed in AMOS utilizing the second half of the data (n=201). The table below showing the demographic profile of the respondents.

Results and Discussion

1. Opportunities offered by OTAs to Consumers'

The value of KMO is .911 (Table 2), it indicates adequacy of sample (Kaiser, 1974). The Bartlett's test of sphericity was checked for the data sufficiency where chi-square statistic value was 2890.492 with 190 degrees of freedom (Table 2) and it was found significant at 0.000 level (Bartlett, 1954) which interprets that correlation matrix was a unique matrix not an identity matrix indicating that variables are unrelated.

Table 2 KMO and Bartlett's test for opportunities of OTAs

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.911
Bartlett's Test of Sphericity	**Approx. Chi-Square**	2890.492
	df	190
	Sig.	.000

Following the Kaiser's criterion (eigenvalues greater than 1), five factors with eigenvalues 9.794, 1.731, 1.451, 1.082, 1.015 are retained. All the five extracted factors have shown a total variance of 75.168%. Common method variance was tested by using Harman's Single factor test and the results revealed the only one factor accounts for 48.972% of variance which is below the threshold level – 50%.

In the context of reliability of the scale, the Cronbach alpha values were calculated, and they ranged between .825 to .909 (Table 3) for the opportunities offered by OTAs which indicates the scale is relevant and values are above than the minimum value of 0.7 (Peterson, 1994). The extracted communalities were ranged between .637 to .843. In the factor analysis (with varimax rotation) all the items used for factoring, has the factor loadings in the range of .619 to .817 (Table 3) which indicates they are pretty well above the minimum value of 0.3 (Hair et.al., 2003).

Table 3: Communalities, Factor Loadings and Cronbach alpha of Opportunities of OTAs

Factor No.	Factor Name	Items Code	Communalities	Factor Loadings	Cronbach Alpha
1	Benefits Offered (BO)	Opp9	.798	.792	.909
		Opp10	.797	.764	
		Opp11	.789	.816	
		Opp12	.820	.817	
2	Quality and Convenience (QC)	Opp5	.813	.798	.888
		Opp6	.798	.759	
		Opp7	.705	.714	
		Opp8	.645	.645	
3	Ease of Use (EOU)	Opp13	.774	.731	.906
		Opp14	.748	.739	
		Opp15	.843	.797	
		Opp16	.813	.770	

4	Responsiveness (RN)	Opp17	.684	.673	.868
		Opp18	.769	.782	
		Opp19	.731	.781	
		Opp20	.752	.729	
5	Customization (CZ)	Opp1	.675	.619	.825
		Opp2	.702	.792	
		Opp3	.740	.757	
		Opp4	.637	.669	

Confirmatory Factor Analysis

CFA is a useful statistical tool in confirming the model structures and theory for preparing a measurement model (Byrne,2013). The dimensional structure gets a statistical approval in terms of goodness-of-fit using the CFA. So, all the factors from the EFA were further verified using CFA to ensure their construct precision within the latent constructs. Hair et.al. (2009) and Byrne (2013) have recommended that for the validity and accuracy of constructs, the convergent validity test necessitates that Composite Reliability (CR) values (>0.7) and Average Variance Explained (AVE) values (>0.5) must be examined thoroughly for the overall model fitness by assessing the factor loadings of the items. Table 4 showing the calculated Composite Reliability in the range of .830 to .910 and Average Variance Explained in the range of .551 to .717 which is above than the threshold limits.

Table 4 CR, AVE of the opportunities offered by OTAs

Dimensions	**Items**	**Standardized Loadings**	**CR**	**AVE**
Benefits Offered (BO)	Opp9	.859	0.910	0.717
	Opp10	.880		
	Opp11	.805		
	Opp12	.840		
Quality and Convenience (QC)	Opp5	.850	0.892	0.675
	Opp6	.883		
	Opp7	.771		
	Opp8	.778		
Ease of Use (EOU)	Opp13	.841	0.907	0.710
	Opp14	.821		
	Opp15	.896		
	Opp16	.809		
Responsiveness (RN)	Opp17	.769	0.869	0.623
	Opp18	.819		
	Opp19	.775		
	Opp20	.794		
Customization (CZ)	Opp1	.786	0.830	0.551
	Opp2	.686		
	Opp3	.804		
	Opp4	.686		

In the Table 5.1, the values in the bold shows the square root of AVE, which is greater than the correlations with all other constructs, it indicates that each construct is more strongly correlated with its own indicators than with other constructs. This suggests that the constructs are distinct and measure unique aspects of the phenomenon (Fornell and Larcker, 1981).

Table 5.1 Discriminant Validity (Fornell and Larcker)

	BO	CZ	EOU	QC	RN
BO	**0.847**				
CZ	0.599***	**0.742**			

EOU	0.597***	0.602***	**0.843**		
QC	0.679***	0.737***	0.651***	**0.822**	
RN	0.610***	0.596***	0.761***	0.625***	**0.790**

In the Table 5.2, all the HTMT ratio <1, indicates that the constructs are more strongly correlated with their own indicators than with indicators of other constructs. This is showing that the constructs are distinct and measure unique aspects of the phenomenon and supports for discriminant validity.

Table 5.2 Discriminant validity (Heterotrait-Monotrait)

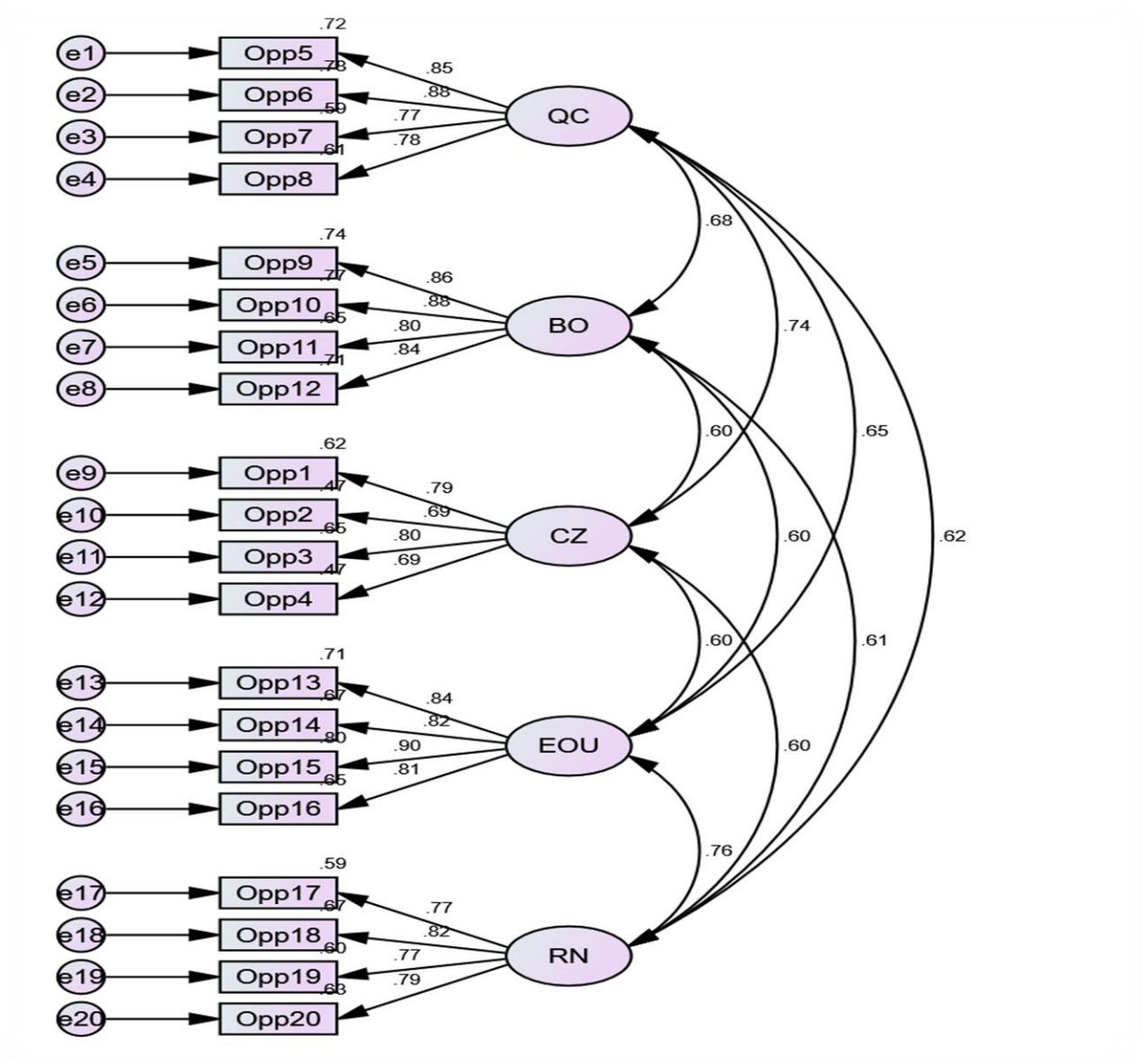
	BO	CZ	EOU	QC	RN
BO					
CZ	0.599				
EOU	0.601	0.614			
QC	0.69	0.738	0.665		
RN	0.607	0.604	0.769	0.634	

Table 6 is showing the model fit indices and presented in way that is self-explanatory (with the cut-off limits, values received, and remarks) and it can be seen that all the values of fit indices are in the acceptable range or either in the Good range. In total, it is showing an acceptable fit for the model and the scale.

Table 6 Model Fit Indices

Fit indices	**Cut-offs**	**Value**	**Remarks**
NFI	0 to 1 - acceptable fit	.867	Acceptable
RFI	0 to 1 - acceptable fit	.843	Acceptable
IFI	0 to 1 - acceptable fit	.916	Good
TLI	0 to 1 - acceptable fit	.899	Acceptable
CFI	0 to 1 - acceptable fit	.915	Good
RMSEA	0.05 to 0.10 - acceptable fit	.087	Acceptable
SRMR	≤ 0.08 - acceptable fit	.0477	Good
CMIN/DF	-	2.490	-

Figure 1 Confirmatory Factor Analysis of Opportunities offered by OTAs



2. Challenges of OTAs to Consumers'

The value of KMO is .919 (Table 7), it indicates adequacy of sample (Kaiser, 1974). The Bartlett's test of sphericity was checked for the data sufficiency where chi-square statistic value was 2496.803 with 171 degrees of freedom (Table 7) and it was found significant at 0.000 level (Bartlett, 1954) which interprets that correlation matrix was a unique matrix not an identity matrix indicating that variables are unrelated.

Table 7 KMO and Bartlett's test for challenges of OTAs

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.919
Bartlett's Test of Sphericity	**Approx. Chi-Square**	2496.803
	df	171
	Sig.	.000

Following the Kaiser's criterion (eigenvalues greater than 1), five factors with eigenvalues 9.348, 1.610, 1.230, 1.084, 1.017 are retained. All the five extracted factors have shown a total variance of 74.323%. Common method variance was tested by using Harman's Single factor test and the results revealed the only one factor accounts for 49.198% of variance which is below the threshold level – 50%.

In the context of reliability of the scale, the Cronbach alpha values were calculated, and they ranged between .824 to .906 (Table 8) for the opportunities offered by OTAs which indicates the scale is relevant and values are above than the minimum value of 0.7 (Peterson, 1994). The extracted communalities were ranged between .628 to .863. In the factor analysis (with varimax rotation) all the items used for factoring, has the factor loadings in the range of .560 to .871 (Table 8) which indicates they are pretty well above the minimum value of 0.3 (Hair et.al., 2003).

Table 8 Communalities, Factor Loadings and Cronbach alpha of Challenges of OTAs

Factor No.	Factor Name	Items Code	Communalities	Factor Loadings	Cronbach Alpha
1	Uncertainty Risk (UR)	Chall16	.763	.738	.906
		Chall17	.837	.807	
		Chall18	.863	.871	
		Chall19	.696	.715	
2	Privacy & Security Issues (PSI)	Chall8	.655	.560	.872
		Chall9	.772	.730	
		Chall10	.731	.731	
		Chall11	.740	.726	
3	Confusion (CF)	Chall12	.716	.690	.856
		Chall13	.735	.731	
		Chall14	.752	.749	
		Chall15	.628	.590	
4	Technical Issues (TI)	Chall5	.810	.800	.853
		Chall6	.785	.804	
		Chall7	.679	.676	
5	Usage Constraints Issues (UCI)	Chall1	.733	.672	.824
		Chall2	.700	.745	
		Chall3	.745	.746	
		Chall4	.781	.695	

Confirmatory Factor Analysis

CFA is a useful statistical tool in confirming the model structures and theory for preparing a measurement model (Byrne,2013). The dimensional structure gets a statistical approval in terms of goodness-of-fit using the CFA. So, all the factors from the EFA were further verified using CFA to ensure their construct precision within the latent constructs. Hair et.al. (2009) and Byrne (2013) have recommended that for the validity and accuracy of constructs, the convergent validity test necessitates that Composite Reliability (CR) values (>0.7) and Average Variance Explained (AVE) values (>0.5) must be examined thoroughly for the overall model fitness by assessing the factor loadings of the items. Table 9 showing the calculated Composite Reliability in the range of .831 to .910 and Average Variance Explained in the range of .554 to .717 which is above than the threshold limits.

Table 9 CR, AVE of Challenges of OTAs

Dimensions	Items	Standardized Loadings	CR	AVE
Uncertainty Risk (UR)	Chall16	.845	.910	.717
	Chall17	.903		
	Chall18	.869		
	Chall19	.765		
Privacy & Security Issues (PSI)	Chall8	.757	.875	.637
	Chall9	.866		
	Chall10	.792		
	Chall11	.774		
Confusion (CF)	Chall12	.779	.858	.602
	Chall13	.775		
	Chall14	.797		
	Chall15	.752		

Technical Issues (TI)	Chall5	.858	.855	.663
	Chall6	.796		
	Chall7	.786		
Usage Constraints Issues (UCI)	Chall1	.636	.831	.554
	Chall2	.716		
	Chall3	.825		
	Chall4	.785		

In the Table 10.1, the values in the bold shows the square root of AVE, which is greater than the correlations with all other constructs, it indicates that each construct is more strongly correlated with its own indicators than with other constructs. This suggests that the constructs are distinct and measure unique aspects of the phenomenon (Fornell and Larcker, 1981).

Table 10.1 Discriminant Validity (Fornell and Larcker)

	CF	PSI	TI	UCI	UR
CF	**0.776**				
PSI	0.752***	**0.798**			
TI	0.619***	0.715***	**0.814**		
UCI	0.712***	0.710***	0.638***	**0.744**	
UR	0.774***	0.665***	0.577***	0.557***	**0.847**

In the Table 10.2, all the HTMT ratio <1, indicates that the constructs are more strongly correlated with their own indicators than with indicators of other constructs. This is showing that the constructs are distinct and measure unique aspects of the phenomenon and supports for discriminant validity.

Table 10.2 Discriminant validity (Heterotrait-Monotrait)

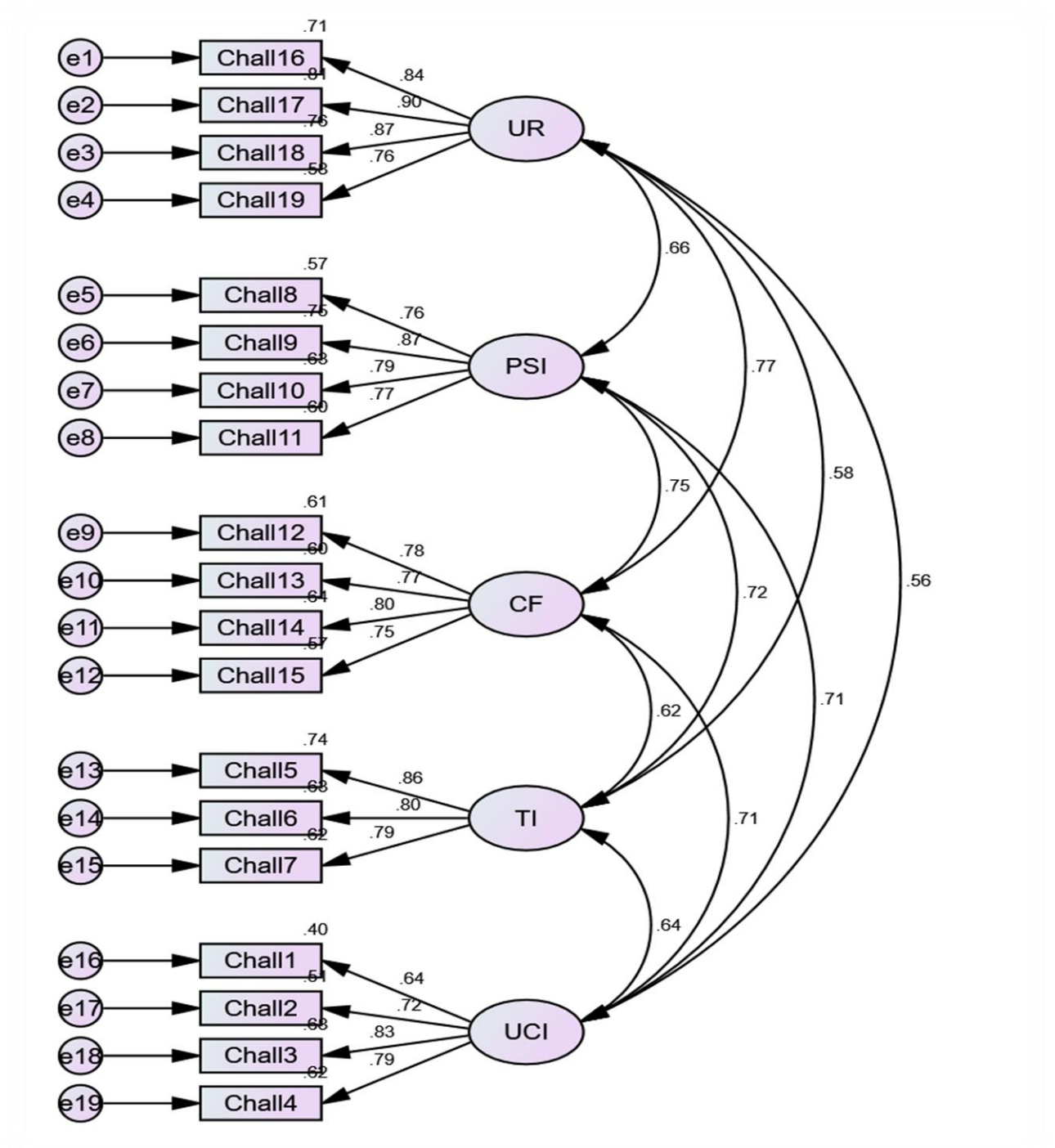
	CF	PSI	TI	UCI	UR
CF					
PSI	0.761				
TI	0.624	0.729			
UCI	0.721	0.709	0.664		
UR	0.789	0.681	0.587	0.572	

Table 11 is showing the model fit indices and presented in way that is self-explanatory (with the cut-off limits, values received, and remarks) and it can be seen that all the values of fit indices are in the acceptable range or either in the Good range. In total, it is showing an acceptable fit for the model and the scale.

Table 11 Model Fit Indices

Fit indices	**Cut-offs**	**Value**	**Remarks**
NFI	0 to 1 - acceptable fit	.891	Acceptable
RFI	0 to 1 - acceptable fit	.869	Acceptable
IFI	0 to 1 - acceptable fit	.943	Good
TLI	0 to 1 - acceptable fit	.930	Acceptable
CFI	0 to 1 - acceptable fit	.942	Good
RMSEA	0.05 to 0.10 - acceptable fit	.071	Acceptable
SRMR	≤ 0.08 - acceptable fit	.0465	Good
CMIN/DF	-	1.988	-

Figure 2 Confirmatory Factor Analysis of Challenges posed by OTAs



Findings

Opportunities: Benefits offered is perceived an opportunity offered by OTAs to consumers. Consumers believe that OTAs offers various discounts, economic rewards, allows free cancellation up-to a specified time, helps to find the best packages, etc. than the tradition travel booking. Quality and Convenience is another opportunity identified for consumers. OTAs provide the better website quality which helps in the Online travel booking 24*7 from anywhere. It also offers various options at single place, various benefits and Booking via OTAs requires less effort. Ease of Use makes the online travel booking easy and accessible. Consumers feel that Online travel booking via OTAs is simpler, easy to understand and they can book their travel easy, quickly and securely via OTAs. OTAs executives and their chatbots are very responsive to each quarry. Consumer finds that OTAs have well-arranged segments of the services offered and always work correctly according to my requirement which Saves cost and time of traveling and staying.

Customization is also identified as the perceived opportunity of OTAs as it offers customized information. Consumer can filter out irrelevant information and find what they want on OTA platform. OTAs allows ways to modify bookings also. OTAs has numerous opportunities for consumers which saves their time, cost, effort and stress of booking. Consumer can book their travel and stay via OTAs anytime and everywhere and get number of benefits offered by OTAs.

Challenges: Just like a coin has two sides, OTAs similarly present both issues and opportunity for consumers. Consumers often encounter the challenge of dealing with technical issues. Consumers often lack the necessary proficiency in OTA, the language used for technology, both in terms of initial and operating abilities. This is due to a lack of information and understanding. A significant number of individuals lack the necessary expertise to utilize online security measures. A significant portion of individuals are unaware of the existence of these alternatives. Usage Constraints Issues is another challenge faced by the consumer while using OTAs. Some Customers feel fear about spending too much time to buy via OTAs and also there is no human touch is there in making booking via OTAs. Few dislikes the constraints put by OTAs during Peak seasons and the increased rates during weekends and holidays. Some features or services of OTAs make the customer Confused and irritated. There are so many OTAs to choose from, and Customers can't protect themselves from the Terms and conditions they don't take care of. Negative comments and reviews influence their decisions and sometimes OTAs over please the customer and disturb them by sending messages and mails which will result in irritation and confusion to buy or not. Privacy & Security Issues is one of the main challenges faced by most of the consumers. Sharing Personal and Financial details online, concerns the customers and they back out to book online. Customers are concern about the misuse of the data and don't find it convenient that OTA asked for my personal information. Booking via OTAs having Uncertainty Risk sometimes which restrict the customers. Uncertainty of online reservation, Discrepancies between the listing and actual accommodation, Discrepancies between the listing and actual facilities provided concerns the consumers most.

The objectives fill the gap by systematically identifying and categorizing the perceived opportunities (Benefits Offered, Quality and Convenience, Ease of Use, Responsiveness, and Customization) and challenges (Uncertainty Risk, Privacy & Security Issues, Confusion, Technical Issues, and Usage Constraints) that consumers face when using OTAs. It also seeks to develop a robust framework that encapsulates the identified opportunities and challenges. It aims to validate the framework through empirical data, ensuring that it is both comprehensive and applicable in real-world scenarios. This involves testing the framework's reliability and validity across different consumer segments and contexts.

Recommendations

Building on the findings, this objective aims to provide actionable recommendations for OTA providers and travel agents. These suggestions will focus on leveraging opportunities to enhance consumer experience and addressing the challenges identified to improve overall service quality and consumer satisfaction. This includes practical strategies for risk management, enhancing user experience, and adopting consumer-centric technologies and practices.

- Keeping in mind the usage constraint issues, OTAs should provide the more sorted and organized platform to book travel services and also provide it in different languages, so that it can reach to the localized limits.
- Mere providing the different opportunities will not make it success, OTAs should made an attempt to provide more awareness and knowledge to the consumers and motivate them to buy travel products online via OTAs. Consumer awareness initiatives should also be implemented to educate individuals about their entitlements and the process for filing complaints.
- It is important for OTAs to frequently revise their privacy and security policy in order to ensure the safety and reliability of their customers. The government should enhance and modernize the regulatory structure that governs the security and privacy of customers online. The current self-regulatory entity, the Advertising Standards Council of India (ASCI), should operate as a professional organization and expand its range of responsibilities. One way to accomplish this is by establishing regional centers dedicated to resolving disputes quickly.
- The concerns of privacy and security of consumers cannot be disregarded, and it is the responsibility of OTAs to handle consumer privacy in a responsible manner without infringing upon it. Consumers should be provided with transparent and unequivocal disclosure. In addition, it is imperative for them to provide a clear and concise explanation of the purpose of their request for consumer information, as well as the specific advantages it will bring to both themselves and the consumer.
- OTAs should prioritize the protection of their consumers' information security. Unauthorized intrusion into consumer financial and personal data can have severe repercussions for marketers, resulting in damage to their

brand reputation. Therefore, it is imperative that they prioritize the protection of consumers' online security. In order to ensure the safety and security of using and browsing OTAs, travel agencies should employ current encryption methods.

Implications of the Study

Theoretical Implications: It identifies key perceived opportunities (Benefits Offered, Quality and Convenience, Ease of Use, Responsiveness, and Customization) and challenges (Uncertainty Risk, Privacy & Security Issues, Confusion, Technical Issues, and Usage Constraints), offering a comprehensive understanding of factors influencing consumer behavior in the digital travel market. By synthesizing theories from technology acceptance models (e.g., TAM), risk perception, and consumer decision-making frameworks, the study offers a holistic view of OTA dynamics. This integration enriches theoretical models by showing how various factors interact to shape consumer experiences and choices. The proposed framework provides a balanced view of both opportunities and challenges in OTAs. This holistic approach encourages further exploration into digital consumer behavior, digital marketing strategies, consumer trust, and technological innovation in e-commerce.

Practical Implications: OTA providers can leverage findings on perceived opportunities such as Benefits Offered, Quality and Convenience, Ease of Use, Responsiveness, and Customization to enhance their service design. Practical strategies include creating user-friendly interfaces, offering personalized services, and improving customer support to boost user satisfaction and loyalty. Addressing perceived challenges like Uncertainty Risk, Privacy & Security Issues, and Technical Issues, OTAs should implement advanced security measures, transparent privacy policies, and robust technical support. These measures will help build consumer trust and mitigate potential risks. Insights into perceived opportunities suggest that OTAs should adopt targeted marketing strategies. This includes using data analytics for personalized travel recommendations, improving mobile app functionalities, and streamlining booking processes to reduce confusion and enhance user convenience. To address challenges related to Privacy & Security Issues and Technical Issues, OTAs should align their practices with emerging regulations on consumer privacy and data security. Adopting industry standards and best practices will help reduce legal risks and enhance consumer trust, strengthening the OTA's competitive edge.

Social Implications: Highlighting Privacy & Security Issues and Usage Constraints emphasizes the need for robust consumer protection. Educating consumers about their rights and safe online practices will empower users and foster a safer online travel environment. Confusion and Technical Issues through transparent communication and user education promotes fair practices in the OTA industry. This approach alleviates consumer misunderstandings and frustrations while encouraging ethical business practices. Emphasizing Ease of Use and Customization advocates for making OTA services more accessible to diverse consumer groups, including those with disabilities. Promoting social inclusivity ensures that all consumers have equal access to travel opportunities and information. Insights on Quality and Convenience can be used to promote sustainable travel options. Encouraging OTAs to integrate eco-friendly choices and support sustainable tourism aligns with global sustainability goals and enhances the industry's social responsibility.

Conclusion

The current study on the exploration of opportunities and challenges of OTAs emphasizes that OTAs are undergoing rapid evolution, with both good and negative implications. There are several benefits to consider. Firstly, there is a greater level of interactivity, meaning that users can engage and interact with content more easily. Secondly, there is increased pricing effectiveness, allowing consumers to find more affordable options. Thirdly, there is a higher level of consumer empowerment, giving individuals more control and influence over their choices. Additionally, there is greater transparency, making information more readily available to consumers. Furthermore, there is improved accessibility, ensuring that content and services are more easily accessible to a wider audience. Lastly, there is enhanced personalization, allowing users to tailor their experiences to their specific preferences. However, there are numerous important factors that must be addressed in order to ensure the success of OTAs. These include consumer security and privacy concerns, as well as technical and usage limits. While certain issues may be more manageable than others, the research clearly indicates that the advantages of OTAs outweigh the difficulties. Online travel businesses should ethically manage client privacy without encroaching upon it. To ensure transparency, consumers should be presented with a clear and unequivocal disclosure. In addition, it is imperative that they provide a clear

and detailed explanation of the purpose of requesting specific consumer information, as well as the potential benefits it will bring to both the organization and the customer. It is imperative for the government to enhance and modernize the regulatory structure that oversees the security and privacy of internet customers. The existing self-regulatory organization should have its scope expanded. Utilizing regional languages in OTAs will enable international businesses to effectively adapt to local markets, fostering a stronger connection between consumers and the brand. This, in turn, will have a beneficial effect on the overall value and perception of the brand. Moreover, the work provides substantial contributions and consequences for scholars and practitioners in the field of OTAs. In theory, the research enhances knowledge by identifying the primary challenges and opportunities that OTAs present to customers. We anticipate that this finding will stimulate more investigation in these areas.

Limitations & Future Scope

The study is not devoid of drawbacks. The researcher has addressed specific pivotal prospects and obstacles of OTAs as perceived by customers, however other factors were not taken into account. This research aims to investigate and authenticate the framework for the opportunities and challenges of OTAs from the consumers' point of view. It is important to note that there was no existing solid theoretical foundation to rely on for this study. The majority of the literature taken for this study focuses on the opportunities and constraints of online travel booking through OTAs, specifically from the perspective of customers. The present study provides a useful starting point for understanding consumers' perception of opportunities and challenges of OTAs through the development and validation of a conceptual framework. The future marketing research may focus on the further empirical research employing this scale with other variables.

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