Original Article

An assessment model for online tours from a consumer perspective

Fumihiko Nakano (Tourism Research Department, Japan Travel Bureau Foundation, nakano@jtb.or.jp, Japan)
Masaki Toyama (Faculty of Regional Policy, Takasaki City University of Economics, toyama.masaki.sy@alumni.tsukuba.ac.jp, Japan)

Abstract
With the outbreak of COVID-19 at the end of 2019, online tours became more popular in the tourism industry. Online tours not only provide an alternative to actual trips but also have the potential to promote an intention to visit tourist destinations and increase the intention to purchase local products. To generate these positive outcomes, clarifying the structure of consumers' evaluations of online tours is important. Therefore, this study aims to present and validate an evaluation model of online tours from the consumers' perspective. We developed a research model based on previous studies in the services marketing literature. The research model was validated using online survey data sent to consumers who have experienced online tours. The results of Partial Least Squares Structural Equation Modelling (PLS-SEM) demonstrate that the hypotheses of the research model are supported. Specifically, the results indicate that the service quality of online tours positively affects satisfaction and marketing outcomes.

Keywords
COVID-19, online tour, satisfaction, service quality, PLS-SEM

1. Introduction

The COVID-19 outbreak, from the end of 2019 to the beginning of 2020, had a significant impact on tourism worldwide. In Japan, there was a sharp increase in travel cancellations due to the virus in March 2020, and by April of that year—when the first state of emergency was declared—more than 80 % of trips had been canceled [Naka, 2021].

Against this backdrop, in April 2020, Airbnb launched a new initiative to "provide opportunities for people around the world to connect and enjoy virtual travel even as they face challenges from the impact of the spread of the COVID-19 pandemic" and to "enable those who have relied on hosting as a source of income to maintain their income as 'a new way to provide online tours'" [Airbnb, 2020]. Besides Airbnb, many businesses—including travel agencies, tourist destinations, and experience providers—launched online tours to offer a new form of travel for consumers who were unable to travel due to the prolonged spread of COVID-19 [Nakano, 2021]. In tandem with these developments, Japan's online tour market expanded from about JPY 9.6 billion in 2020 to roughly JPY 12 billion in 2021—an increase of nearly 25 percent year on year [Maekawa et al., 2022].

These examples suggest that online tours not only serve as substitutes for traditional sightseeing tours but also have the potential to foster a desire to visit the region in person and to encourage purchases of local specialties. For instance, Kotohira Bus in Kagawa Prefecture provides travel bookmarks, paper seatbelts, and bus interior wallpaper beforehand, allowing participants to feel a sense of togetherness from home. They also offer the same enjoyment as a real bus tour, complete with a guide, opportunities to interact with local experience providers, and options to purchase local products online. In particular, local products are delivered in conjunction with the online tour, and local producers interact directly with participants while they sample these products [Nakano, 2021].

To consistently achieve the favorable outcomes brought about by these online tours, it is necessary to improve their reputation among online tour users. According to marketing research findings [Shigematsu, 2022; Minami, 2012], enhancing the reputation among consumers who have used the organization's products and services is essential for generating favorable outcomes.

However, little research has been conducted on the evaluation structure of online tour users. The mechanism by which users' evaluations of online tours lead to positive outcomes for tourist destinations and tourism-related industries remains unclear. Clarifying this mechanism would offer useful insights for various businesses, enabling them to capitalize on the potential of online tours.

The purpose of this study is to propose a model that clarifies the evaluation structure of online tour users and to test its validity. In formulating this model, we draw on service marketing research findings, as online tours can be considered a type of service.

2. Literature review and hypotheses

2.1 Service quality and satisfaction

In service marketing research, service quality is typically regarded as the subjective evaluation of users of a given service [Edvardsson, 2005]. A representative measurement model for service quality is SERVQUAL [Parasuraman et al., 1988], which evaluates service quality using five dimensions: tangibles, reliability, responsiveness, assurance, and empathy. Although it can be applied to various service industries, SERVQUAL has been critiqued for being highly abstract and for lacking important dimensions specific to certain industries

[Nakamura, 2007]. Consequently, when examining service quality for a particular industry, it is advisable to identify relevant evaluation items by considering the unique characteristics of that service. In this study, therefore, we also examine the relevant items of service quality for online tours based on the particular nature of these tours.

Service quality is known to have a positive influence on satisfaction [Minami, 2012]. Satisfaction is defined as a response that reflects the extent to which consumers perceive themselves as satisfied [Oliver, 2010]. Like service quality, satisfaction can be viewed as a subjective evaluation by service users, suggesting some conceptual overlap between the two. However, because satisfaction refers to the overall evaluation of a service experience [Oh, Fiore, and Jeoung, 2007], it can be organized such that service quality is the evaluation of individual service elements, whereas satisfaction is the overall evaluation. Based on this discussion, the following hypothesis is formulated:

- Hypothesis 1:
  Online tour service quality positively affects online tour satisfaction.

2.2 Satisfaction and marketing outcomes

Previous research has shown that when users are satisfied with a service, they exhibit positive marketing outcomes for the organization, such as an increased intention to repurchase or to engage in favorable word-of-mouth [Cronin, Brady, and Hult, 2000; Ono, 2010]. As noted earlier, the marketing outcomes of online tours include fostering the intention to visit the destination, encouraging the purchase of local specialty products, and generating intentions to reuse and recommend the online tours themselves. In this study, these outcomes are collectively referred to as "marketing outcomes." We assume that greater user satisfaction with online tours yields more favorable marketing outcomes. Hence, we propose the following hypothesis:

- Hypothesis 2:
  Satisfaction positively affects marketing outcomes.

2.3 Service quality and marketing outcomes

From the previous discussion, service quality is assumed to positively influence marketing outcomes through satisfaction. However, earlier studies have also indicated that service quality may directly affect repurchase intentions and positive word-of-mouth [Cronin et al., 2000]. Therefore, the following hypothesis is formulated:

- Hypothesis 3:
  Online tour service quality positively affects marketing outcomes.

Based on the above discussion, this study proposes a hypothetical model, presented in Figure 1. Although expectation–performance frameworks such as SERVQUAL are frequently used to assess service quality, we specify a performance-only model because prior research shows that such models yield higher statistical accuracy and stronger predictive power for satisfaction and usage intention while lowering respondents' cognitive load [Brady et al., 2002].

3. Methodology

3.1 Outline of the survey

The aim of this study is to examine an evaluation model of online tours from the perspective of users during the COVID-19 era. Thus, we targeted individuals who had participated in at least one online tour since 2020. Data were collected in March 2021 using an online survey service provided by Cross Marketing Inc. The final sample comprised 456 respondents who completed all questions related to the measurement items described below.

To secure an adequate sample size, we did not restrict the survey to specific regions or types of online tour experiences. However, to emphasize the interactive nature of online tours, we focused on tours featuring live commentary by a tour guide.

3.2 Measurement items

Because of the limited prior research on service quality, as noted earlier, one of the authors of this paper developed the questionnaire items by referencing actual online tours. Specifically, online tour service quality was evaluated using a 7-point scale (from 7 = "satisfied" to 1 = "dissatisfied") on a total of 11 items. Each item included an "N/A" option, in case the respondent's experienced online tour did not contain that

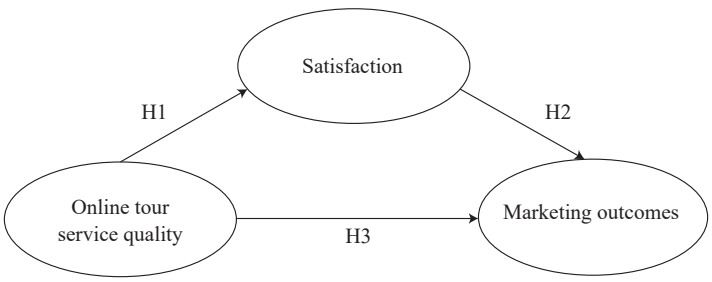

Figure 1: Hypothetical model

particular feature. Responses marked as "N/A" were excluded from the analysis.

Satisfaction was assessed by a single item on a 7-point scale (7 = "satisfied" to 1 = "dissatisfied"), following previous service marketing studies [Uehara, 2009; Zhou and Kikuchi, 2009]. Marketing outcomes included four items measured on a 7-point scale (7 = "agree" to 1 = "disagree"):

- Intention to visit the destination
- Intention to purchase local specialties from the destination
- Intention to reuse the online tour itself
- Intention to recommend the online tour to others

4. Results and discussion

4.1 Profile of sample

Slightly more males responded than females, with 267 (58.6 %) male and 189 (41.4 %) female. In terms of age, 101 respondents (22.1 %) were 18-29 years old, 139 (30.5 %) were in their 30s, 104 (22.8 %) in their 40s, 49 (10.7 %) in their 50s, 46 (10.1 %) in their 60s, and 17 (3.7 %) in their 70s. Although these figures offer a basic demographic profile of the sample, the study concentrates on testing the associations among factors underlying online tour evaluations and therefore does not examine whether these relationships are moderated by socio-demographic variables.

For participation in online tours to domestic destinations, 43 respondents (9.4 %) had taken 0 tours, 212 (46.5 %) had taken 1, 112 (24.6 %) had taken 2, 52 (11.4 %) had taken 3, and 37 (8.1 %) had taken 4 or more tours. Thus, participating in 1 tour was most common. As for online tours targeting overseas destinations, 148 respondents (32.5 %) took 0 tours, 164 (36.0 %) took 1, 78 (17.1 %) took 2, 29 (6.4 %) took 3, and 37 (8.1 %) took 4 or more. Similar to domestic destinations, participating in 1 tour was most common.

4.2 Factor analysis

An exploratory factor analysis (maximum likelihood method) was conducted to determine whether the measurement items for online tour service quality could be grouped into categories with common traits. Using the criterion that the number of factors should have an eigenvalue greater than 1, the first factor had an eigenvalue of 8.945, while the remaining factors had eigenvalues below 1. This result suggests that the measured aspects of online tour service quality in this study form a single-item structure. Hence, online tour service quality was treated as a single-item construct in subsequent analyses.

4.3 Hypothesis testing

To test Hypotheses 1 through 3, a model with paths connecting the constructs was constructed according to the hypotheses, and analyzed using Partial Least Squares Structural Equation Modeling (PLS-SEM). PLS-SEM is appropriate for studies with an exploratory nature and can manage constructs represented by a single item [Hair et al., 2011]. Because little prior research exists on consumers' evaluations of online tours, this study can be considered exploratory. Additionally, as mentioned above, satisfaction is treated as a single-item construct, further supporting the use of PLS-SEM. We employed SmartPLS version 3 [Ringle et al., 2015] for analysis.

First, we verified the reliability and validity of the constructs following guidelines in previous research. Composite Reliability (CR) was used to assess reliability, and each construct's CR exceeded the recommended threshold of 0.7 (Table 1). Therefore, all constructs were deemed reliable.

Convergent and discriminant validity were then examined.

Table 1: Reliability and validity of constructs

Construct	Item details	Outer loading	CR	AVE
Online tour service quality	Live, real-time commentary delivered by the tour guide	0.882	0.980	0.813
	Quality of locally sourced specialty products	0.877		
	Quality of destination brochures and other printed materials	0.907		
	Opportunity for participants to pose questions and offer comments	0.902		
	Interaction with local residents	0.904		
	Interaction among participants	0.904		
	Perceived appropriateness of the tour's overall duration	0.904		
	Perceived appropriateness of the group size	0.907		
	Perceived fairness of the participation fee	0.898		
	Quality of scenery and streetscapes showcased during the tour	0.911		
	Comprehensive pre-tour briefing and post-tour follow-up information	0.921		
Satisfaction	Overall satisfaction with the online tour	1.000	1.000	1.000
Marketing outcomes	Intention to recommend the online tour to others	0.859	0.920	0.743
	Intention to visit the destination	0.877		
	Intention to purchase the featured local specialty products	0.857		
	Intention to participate in future online tours	0.854		

Convergent validity was assessed via Average Variance Extracted (AVE), and the AVE for each construct exceeded the recommended threshold of 0.5 (see Table 1). Hence, convergent validity was deemed satisfactory. For discriminant validity, we used the Fornell and Larcker [1981] criterion, confirming that the square-root of each construct's AVE exceeded its correlations with other constructs (see Table 2). Each construct thus demonstrated discriminant validity.

Regarding the coefficient of determination (R^2) for each construct, satisfaction had $R^2 = 0.457$, whereas marketing outcomes had $R^2 = 0.783$. According to the threshold proposed by Hair et al. [2011], R^2 values above 0.5 are moderate, and those above 0.75 are high. Consequently, the model was interpreted to have slightly below moderate explanatory power for satisfaction and high explanatory power for marketing outcomes.

We then tested Hypotheses 1 through 3 by examining the path coefficients in the PLS-SEM analysis. Standard errors were calculated from 5,000 bootstrap resamples. The results showed that online tour service quality had a significant positive effect on satisfaction (see Table 3), supporting Hypothesis 1. Satisfaction also had a significant positive impact on marketing outcomes (Table 3), supporting Hypothesis 2. Furthermore, service quality had a significant positive impact on marketing outcomes (Table 3), supporting Hypothesis 3.

Overall, the results confirm that all the hypotheses formulated in this study are supported. Achieving marketing outcomes from online tours requires improving both the quality evaluations by consumers and their subsequent satisfaction. Because satisfaction depends on service quality, enhancing service quality appears vital to realizing successful marketing outcomes. Moreover, our findings suggest that improving the service quality of online tours can increase not only users' intentions to reuse or recommend the tour itself but also their inclination to visit the local destination and purchase local products—thus contributing to revitalizing local economies.

5. Conclusion

This study proposed a hypothetical model to clarify how online tour users evaluate tours. Using survey data from online tour participants, we tested the model and found support for all proposed hypotheses. Specifically, the service quality of online tours positively influences marketing outcomes—such as the intention to visit tourist destinations and the intention to reuse the online tours themselves—through satisfaction. Moreover, service quality directly and positively influences marketing outcomes.

This study makes two key academic contributions. First, it elucidates the mechanism by which user evaluations of online tours lead to favorable marketing outcomes for tour providers. Second, it demonstrates that the relationship among service quality, customer satisfaction, and marketing outcomes, as examined in service marketing research, can be extended to online tours. This implies that prior research on service quality and customer satisfaction has broader applicability, enhancing our understanding of service marketing in this evolving context.

In practical terms, the findings suggest reconsidering online tours as an emerging travel service shaped by the COVID-19 pandemic. Recognizing that online tours provide not only a degree of travel enjoyment but also yield marketing outcomes—such as boosting sales of local specialties and encouraging visits—can help businesses improve the overall travel experience through reciprocal use of online and offline tours. To further enhance marketing outcomes, it is important to focus on improving service quality in both online and offline contexts. Specifically, enhancing features such as the tour guide's commentary and interactions among participants can increase participant engagement. These features closely resemble techniques and expertise employed in

Table 2: Square-root of AVE for each construct and correlation coefficients between constructs

	Online tour service quality	Marketing outcomes	Satisfaction
Online tour service quality	0.902		
Marketing outcomes	0.822	0.862	
Satisfaction	0.676	0.796	1

Note: Grey color indicates the square roots of the constructs' AVE.

Table 3: Results of path coefficient tests

	Path coefficient	*t*-value	*p*-value
Online tour service quality → Satisfaction	0.676	20.399	< 0.001
Satisfaction → Marketing outcomes	0.442	11.472	< 0.001
Online tour service quality → Marketing outcomes	0.523	15.247	< 0.001

offline tours, indicating the potential to leverage the skills and resources of travel agencies and local communities to refine online tours.

Finally, we address the study's limitations and propose future research directions. First, to secure a sufficient sample, this study collected user evaluation data without limiting the scope to specific online tours. Future research might focus on a particular online tour to validate the applicability of the present findings. Second, while this study targeted live broadcast tours featuring tour guide commentary to emphasize interactivity, some online tours adopt an on-demand format with prerecorded content. Future work should investigate whether on-demand online tours exhibit a different evaluation structure from live tours, thus deepening our understanding of how users evaluate online tours. Third, as noted earlier, this study did not incorporate prior expectations into the service-quality evaluation. Future research should investigate how expectations influence satisfaction and marketing outcomes, thereby refining the proposed model. Fourth, this study presupposed the feasibility of physical travel and therefore did not address consumers with mobility limitations. However, online tours also reach consumers who face physical barriers to travel—such as residents of nursing homes and care facilities or individuals with disabilities. Future research should explore how such tours serve mobility-restricted consumers and identify the factors that enhance their willingness to participate. Fifth, this study did not test whether socio-demographic variables—such as gender and age—moderate the relationships among the constructs in the hypothesized model. Future research should investigate these moderating effects to establish the model's generalizability.

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