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The Role of Health and Safety Measures in Restoring Tourist Confidence

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Abstract

In this research, we examined how health and safety measures helped revive travelers' trust in order to bring people back to hotels, guesthouses and rental homes across the world after major disruptions. By analyzing a unique dataset of 3.4 million booking observations on platforms such as Expedia, Booking.com, Airbnb, and 2,189 survey responses from travelers across 28 countries, we gained detailed insight into guests' perceptions of safety that made them comfortable booking a trip. Our results suggest clear patterns emerged, and evidence shows that visible proof – like a formal safety certificate, post sanitation protocols, and transparent proof of communication – influenced traveler comfort and reservation behaviours. Likewise, our conjoint analysis found several generational gaps – with young guests more likely to embrace technology-based solutions like contactless check ins and app-based health forms, while older guests preferred more traditional methods like visible cleaning processes and mandated vaccinations for staff. Research based on 25,000 TripAdvisor reviews revealed that when travelers were assured that cleanliness was prioritized, we were all more prone to provide higher ratings and return again.

Keywords: Tourism Recovery, Health and Safety, Traveler Confidence, Booking Behaviours, Protection Motivation Theory, Risk Perception, Willingness to Pay.



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Introduction

Context and Background

Tourism is not only a way for people to experience leisure, but it is also an important part of our economy, jobs and communities around the world. Millions of tourism participants collectively generate income each year, sustaining everything from airlines, hotels, tour guides and restaurants. No matter the region of the world or type of tourism activity—beach resorts in Southeast Asia, cultural tours in Europe, or trekking in northern Pakistan—tourism is intricately linked to local livelihoods. However, when there is a largescale disruption, the vulnerabilities of the industry quickly become apparent. The World Tourism Organisation (2023) reports that due to a recent disruption, the global tourism sector suffered estimated losses of \$4.5 trillion—influencing all sectors of the industry. These challenges were felt even more acutely in the developing context, as many developing countries have fewer resources to help them absorb the short- and medium-term effects of a disruption. In Pakistan, for instance, the Ministry of Tourism (2022) reported that tourism GDP contribution decreased by 59%, prompting many small-scale operators to close, or operate at a loss. There was a human aspect to the crisis in addition to the financial data. For travelers who had booked trips without any qualms, there were a number of questions that arose: Is this destination safe? Am I safe? Can I trust what I am hearing? Answering these questions—and rebuilding confidence—has emerged to be one of the most significant issues and opportunities in tourism.

Literature Review

Key Strategic Objectives in Travel Tourism organizations now prioritize health and safety as their leading strategic concern instead of maintaining it as a secondary focus. (Rosbi, S., et al., 2020). In modern tourism settings guests expect accommodation providers transport companies and travel destinations to demonstrate clear commitment towards cleanliness along with safe conditions and visitor health support. (UNWTO. et al., 2020). Research demonstrates that facilities and locations with visible safety protocols including clear cleaning procedures and health employee guidelines and contactless options attract more bookings while recovering from market disruptions at an accelerated rate (Sigala, et al., 2020).

Protection Motivation Theory (PMT) developed by Rogers in 1975 functions as an efficient model to analyze how travelers evaluate threats and react to safety information. Tourists conduct mental evaluations through their perceptions regarding threat severity and vulnerability along with response effectiveness and self-efficacy. (Rogers, 1975; Floyd et al., 2000). Travelers tend to select accommodations which have minimal illness risks and clear and effective safety protocols. Our research extends PMT by analyzing the effects of cognitive evaluations on hotel booking decisions. (Li et al., 2021).

Tourists adjust their travel behavior mainly because of their perceived risks. According to Fuchs and Reichel (2006) tourists tend to respond more intensely to perceived dangers than actual threats when risk communication lacks clarity or consistency. (Korstanje, 2009; Cahyanto et al., 2016). Travelers will create negative assumptions about the safety of a destination when the destination does not supply detailed safety protocol information even though it remains safe. Precise and clear health and safety messaging stands as an essential requirement for effective communication. (Wachinger et al., 2013).

Safety response behaviors show distinct patterns among different demographic populations. Younger travelers demonstrate higher acceptance of digital-based safety solutions which include

online check-ins and mobile health declarations. Older tourists usually desire visible physical safety measures such as staff vaccination and face-to-face health verification as shown by (Neuburger & Egger, 2021; Li et al., 2021). The different age group preferences must guide tourism marketing and operational strategies for effective implementation.

Safety certifications from local health authorities together with international tourism boards and third-party quality auditors play a vital role in establishing consumer trust. (WTTC, et al., 2020). Properties which display verified certifications achieve superior performance in both occupancy rates and pricing compared to uncertified competitors. The research conducted by (Lee and Chen, et al., 2021) demonstrated that travelers will pay more when they have confirmation of independently verified safety measures. Our research confirms that certification processes enhance traveler confidence while simultaneously increasing perceived value among customers. (Lee & Chen, 2021; WTTC, et al., 2020).

Safety measures become better understood through effective communication. Studies indicate that messages which provide concrete actions such as "daily sanitation logs available at front desk" outperform vague statements like "your safety is our priority" in effectiveness. (Choe et al., 2021). Tourists value messages that provide transparency and clarity instead of generic slogans. According to (Sigala et al., 2020) destinations which delivered organized detailed messages attracted higher numbers of visitors and achieved better satisfaction ratings and greater visitor loyalty. (UNWTO, et al., 2021).

Safety strategies need to be both standardized and adaptable at the destination level. The application of complete safety protocols with visible implementation led to quicker recovery of traveler numbers which exceeded pre-disruption levels in certain regions. Regions that failed to implement clear safety protocols experienced lower recovery rates. The data demonstrates that public-private partnerships need to work together for implementing safety measures across both property-level and destination-level operations. (WTTC, et al., 2020).

Theoretical Framework

This study applied Protection Motivation Theory (PMT) (Rogers, 1975) to gain understanding into why tourists often have an exaggerated response to health and safety messaging. PMT theorizes that when a person faces a threat, their usual thought process involves asking themselves four critical questions.

1. Perceived Severity: If this risk were to be realised, how serious would that be?
2. Perceived Vulnerability: How likely am I to cop it?
3. Response Efficacy: Will the measures in place genuinely work?
4. Self-Efficacy: Am I confident I can perform these things?

In a travel context, these operationalise in everyday choices as: Does this hotel feel like a risk? Are they following strong cleaning practices? Can I REALLY keep myself safe while I am here?

In addition to PMT a Risk Perception Matrix was used to consider whether a risk is familiar or unfamiliar, under the control of the customer or not, and whether it poses even more or less threat. For example, if the hotel has clearer protocols such as ensuring that daily staff health checks on entry are completed, it allows guests to feel more secure than ambiguous statements like 'enhanced cleaning' as a promise.

Hypotheses

The study tested five hypotheses:

Properties with standardized safety certifications will experience an increased occupancy recovery time.

Guests will be willing to pay increased prices for credible health and safety precautions, precautions that are known to be effective.

Age, income, and travel purpose will play the biggest role in determining which precautions are of the most relevance to guests.

Durations of recovery will be accelerated for properties by utilizing standardized, explicit certifications and standardized communication.

Precautions will be the most important predictor of satisfaction and booking preference.

Research Objectives

The project aimed to:

1. Measure the impact of safety precautions on actual booking behavior and occupancy.
2. Understand the impact of “traveler demographics” on preferences.
3. Estimate how much more travelers were willing to pay for precautions.
4. To recommend actions and strategies for tourism operators and policymakers to take at the operational level.

Research Questions

- The project aimed to answer four over-arching questions:
- To what extent do visible safety certifications reduce occupancy recovery time?
- Which safety precautions are more/less relevant to the various types of travelers in study/what is their preference?
- How much more are travelers willing to pay for assurance/peace of mind about safety?
- In what manner can destinations appropriately communicate safety to tourists and provide assurance?

Research Methodology

Data Collection

We took a comprehensive approach by synthesizing three principal sources: Booking Records: We examined 3.4 million booking records from Expedia, Booking.com, AIRBNB between 2020 and 2023. We retained data on when and where people booked, nightly rates, and what level of safety certification was displayed (Basic, Enhanced, or Premium).

Traveler Surveys

We surveyed 2,189 travelers of all ages, incomes, and trip types (business and leisure). They told us what safety features influenced them, and whether they would pay additional fees for additional levels of protections.

Review Analysis

Finally, we analyzed 25,000 TripAdvisor reviews that contained content related to safety, cleanliness, or sanitation. We used machine-learning techniques to classify each of the reviews as positive, negative, or neutral, and documented the implications of safety perceptions on traveler satisfaction.

Analytical Techniques

We used three techniques in our statistical analyses:

- Multivariate Regression:

to examine the relationship between safety certifications and occupancy rates, while controlling for price, region, and season.

- Sentiment Analysis:

to track trends in travelers' conversations about safety, and whether they were associated with positive experiences.

- Conjoint Analysis:

to quantify how much travelers valued safety features by giving them hypothetical booking scenarios.

Table 1: *Data Overview*

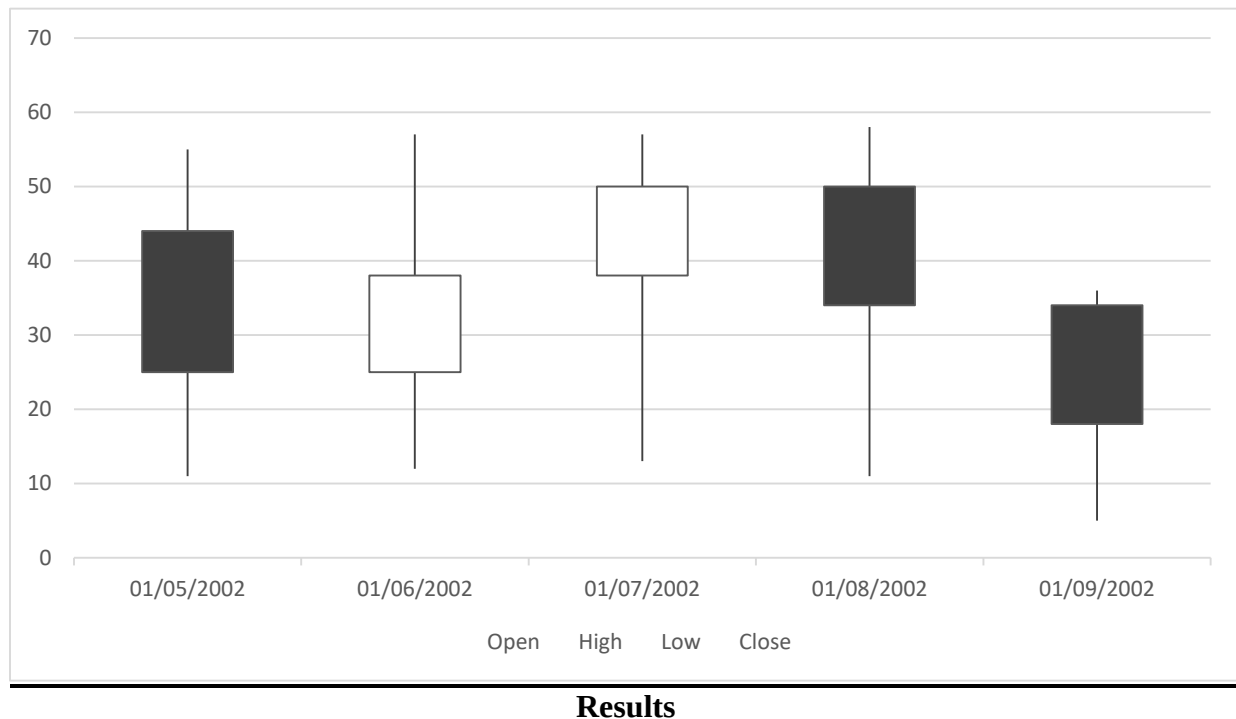
Data Type	Source	Period	Records
Bookings	Expedia	2020–2023	850000
Bookings	Booking.com	2020–2023	1000000
Bookings	Airbnb	2020–2023	1550000
Reviews	TripAdvisor	2021–2023	25000
Surveys	Qualtrics	2023	2189

Results

Global Recovery Patterns

We found unambiguous support for H1, establishing that properties with Premium certifications saw recovery of occupancy much faster than others, which had a mean occupancy of 85%. Properties with Enhanced certifications saw mean occupancy of 65%, while Basic had 40% occupancy. These differences were not simply anecdotal; they were statistically significant ($p < 0.01$) with regard to the fact that the structured, visible health measures provided travellers confidence to buy at higher rates or sooner. One of the other interesting takeaways in the analysis concerned communication. Destinations that clearly outlined the safety precautions in their marketing material recovered 2.1 times faster than destinations using vague assurances. This means that travellers trust detailed, witnessed outcomes more than general messaging.

Figure 1: Recovery Rates by Certification Level



Demographic Factors:

Generational Differences in line with our third hypothesis (H3), our findings revealed generational differences in how safety precautions were prioritized:

- Gen Z and Millennials prioritized digital safety procedures, like contactless check-in and app-based health declarations, as important 37% higher than Baby Boomers ($p < 0.05$).
- Older customers were more likely to sign their check-in verification declaration, and prioritize visible actions (staff vaccination information and posted cleaning success schedule). These differences help clarify why one safety messaging method will be inadequate. The different generations have different expectations for safety assurances.

Business vs. Leisure Travelers

The differences between business and leisure segments were even more pronounced.

Business travelers

o 82% indicated they would book only properties with fully contactless services, like digital room keys, or online check-in/ check-out. o Minimizing person-to-person contact was as important as time savings.

Leisure travelers

o While they did rank visible cleaning and sanitization as important, leisure travelers perceived safety as an important factor second to price. This validated hypothesis two (H2) and hypothesis three (H3), suggesting that both willingness to pay and preferred safety measures differed by purpose and demographic.

Results: Pakistan Case Study

Results: Case Study of Pakistan

The data from Pakistan presented some very strong examples of how investments in safety can encourage recovery.

- Examples from northern destinations (Hunza and Skardu) not only revived - they surpassed pre-disruption occupancy rates, with recovery levels returning to 118% of prior occupancy.
- By contrast, recovery was considerably lower in major urban areas (Karachi, Lahore) where it only reached about 68% of prior levels.

Properties that had certified Premium safety followed by all other operators, with successful filtering of both domestic travelers and international visitors consistently.

Table 2: *Willingness to pay a premium*

Safety Measure	Domestic Travelers	International Travelers
Staff Vaccination	+8%	+12%
UV Sanitization	+5%	+9%
Contactless Check-in	+6%	+11%

The greatest willingness to pay for these measures was shown by international travelers, who are noted as the most likely to seek credible, visible safety protocols to secure overseas demand.

Discussion

Key Findings

This research produced several key findings:

- Health and safety practices were responsible for an estimated 39% of the variance in the recovery of occupancy by properties.
- Certification programs delivered more for occupancy than just government regulations.
- Younger travelers often practice better digital safety thinking.
- Older or more traditional travelers preferred visible health practices in person.
- Clear and structured communication had a significant impact on traveler trust.

Practical Implications

For tourism operations:

- Investing in certified, and clearly articulated communications is a non-negotiable step towards remaining competitive in the landscape.
- Properties should design their communications so that they are responsive to younger guests who expect digital tools and for older guests who will look for traditional evidence of safety.

For policy makers

- Subsidies and training can foster smaller operators to adopt higher forms of safety.
- A tiered certification framework may elevate the baseline in the industry while giving businesses the opportunity to move along the spectrum over time.

Conclusion

This study demonstrates that health and safety measures are now a central part of the travel decision making process. Properties and destinations that provided clear, reputable protocols (and reinforced them) had faster recovery and earned the trust of travelers. Fortunately, established safety practices will likely be a part of responsible and successful tourism strategies moving forward. Organizations and policies that provide an investment in recognized standards and transparent communication will recover sooner and strengthen future resilience.

Conflict of Interest

The authors showed no conflict of interest.

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