This is the accepted manuscript of the article:

Nicolau, J. L., Sharma, A., Shin, H., & Kang, J. (2023). Airbnb vs hotel? Customer selection behaviors in upward and downward COVID-19 trends. *International Journal of Contemporary Hospitality Management,* https://doi.org/10.1108/IJCHM-04-2022-0478.

Airbnb vs. Hotel? Customer selection behaviors in upward and downward COVID-19 trends

Abstract

Purpose - To provide a dynamic view on accommodation choice behaviors during the pandemic, this study examines the impact of recent trends on prospective travelers' preferences for hotels and Airbnb.

Design/methodology/approach - The paper adopts a mixed methods approach that incorporates three independent studies (experimental analysis, online search pattern analysis and an econometric event study) to understand customer decision-making behaviors.

Findings - Our findings indicate that travelers prefer Airbnb entire flats/apartments to hotels when the pandemic is trending upward. This result externally validates travelers' preference towards Airbnb during periods of high risk. Interestingly, when the trends go downward, however, the same behavioral pattern was not identified.

Research limitations/implications - This study provides important empirical insights into how the evolution of health crises influence customer decision-making for hotels and Airbnb. Future research needs to consider the role of socio-demographic factors in accommodation selection behaviors and examine how travelers react to cleanliness levels between Airbnb and hotels.

Originality - As one of initial studies that empirically examine Airbnb customers' decision-making behaviors in the context of the COVID-19 pandemic's trends, this study provides a dynamic view on how the evolution of the pandemic influences accommodation choice behaviors.

Keywords: COVID-19, Hotel, Airbnb, Perceive health risk, Safety concern, Decision-making

Paper type - Research paper

Introduction

The coronavirus (COVID-19) pandemic has been the most disruptive event to the accommodation sector in recent decades. The peer-to-peer (P2P) rental market is no exception (Dolnicar and Zare, 2020). Very early in the pandemic, the number of new Airbnb bookings dropped by 85% and cancellation rate was estimated to be around 90% (Zhang et al., 2021). In the second quarter of 2020, Airbnb revenue plummeted 72%, and the company had to lay off 25% of its workforce (Levy, 2020). In addition, the more limited financial support and assistance from governments made its situation worse than other types of accommodation providers like hotels and resorts (Farmaki et al., 2020).

However, Airbnb appears to have rebounded somewhat recently, and has been exhibiting some positive indicators of performance. For instance, Airbnb turned a profit of $219.3 million on $1.34 billion in revenue in the third quarter of 2020 (Levy, 2020). While this is partly due to cost-cutting measures (e.g., reduced marketing spending, reduced executive spending, etc.), one wonders whether the unique nature of Airbnb properties (e.g., entire flat or private full flat) might better accommodate ongoing safety related needs. It is no surprise, of course, that consumer priorities when traveling in the pandemic have changed, with a much greater emphasis on precautions such as physical distancing (Bonfanti et al., 2021; Levy, 2020). A recent survey conducted by Airbnb shows that prospective travelers feel much more comfortable staying in Airbnb private apartments and entire homes as compared to hotels where they would be unable to completely avoid interactions with staff, and a certain level of contact with other hotel guests (Airbnb, 2020). This result indicates that isolated Airbnb properties can be effective in minimizing social interactions between hosts and guests or between guests, which can alleviate

travelers' safety concern and help to attract more guests to Airbnb during the pandemic (Jang et al., 2021).

Although the pandemic has spurred an immense amount of research, several knowledge gaps remain, and warrant further investigation. First, compared to the recent scholarly attention on hotel customer decision-making (Kim et al., 2021; Shin and Kang, 2021), most research has analyzed the broader impact of the pandemic on sharing economy businesses (e.g., Chen et al., 2020; Farmaki et al., 2020; Hossain, 2021). A major limitation of existing research on COVID-19 pandemic is that they have mainly focused on examining how the pandemic influences either the hotels or Airbnb markets (e.g., Kim et al., 2021; Vinod and Sharma, 2021), resulting in lack of understanding of how travelers make a choice between the two accommodation options. Although Bresciani et al. (2021) analyzed that travelers prefer Airbnb full flats to Airbnb shared flats and hotel rooms due to physical distancing, another limitation of such research and other research is that the pandemic has frequently been conceptualized as static – in other words, insufficient consideration has been given to the pandemic's trends and changes in the pace of COVID-19's evolution.

Most of the currently available research investigated customer decision-making behaviors between pandemic and non-pandemic contexts (e.g., Bresciani et al., 2021; Kim et al., 2021). However, there have been multiple upward and downward trends throughout the pandemic (Worldmeter, 2021), and one presumes that these trends would influence prospective travelers' decision-making behaviors. This study proposes that different COVID-19 trends will influence travelers' perceived health risk and safety concern, which may influence their accommodation decision-making behaviors. As a whole, the purpose of this study is to understand how COVID-19 downward and upward trends influence travelers' choice behaviors and preferences between

hotel and Airbnb. In addition, this study examines the underlying psychological mechanism of the choice behavior in terms of perceived health risk and safety concerns about physical distancing. To achieve the research purpose, this paper adopts a three-pronged mixed methods approach.

[Figure 1 should be here]

Literature Review

2.1. Hotel and Airbnb during the COVID-19 pandemic

The COVID-19 pandemic has arguably been the biggest threat to the accommodation sector since the 1933 Great Depression (Farmaki et al., 2020). Along with travel restrictions, border closures, and lockdown measures imposed by most governments, hotel revenue decreased by more than 50% and 70% of hotel employees were laid off or furloughed in 2020 (American Hospitality and Lodging Association [AHLA], 2020). In addition, the pandemic has also had a devastating impact on sharing economy P2P businesses such as Airbnb. Even after the pandemic, the recovery of the accommodation sector is expected to be slow for high levels of travel fear and anxiety may remain (Shin and Kang, 2020).

Considering the significant impact of the pandemic on the hotel industry, a considerable amount of recent hospitality and tourism research has focused on how to attract customers to hotels during the pandemic (e.g., Kim et al., 2021; Shin and Kang, 2020). Key issues heavily investigated in recent hotel research include the effects of COVID-19 on hotel management (e.g., Jiang and Wen, 2020), hotel employee job insecurity (e.g., Vo-Thanh et al., 2022), and recovery strategies (e.g., Le and Phi, 2021; Yan et al., 2022). Importantly, a body of research examined

the role of risk mitigation measures in the pandemic, such as upgraded hygiene standards and physical distancing policies (Jiang and Wen, 2020), and technological tools to reduce personal contacts (Kim et al., 2021, Shin and Kang, 2020).

Some research has also focused on Airbnb hosts' in order to understand their perceptions with regards to the pandemic and shed light on how they respond to the crisis (Farmaki et al., 2020; Zhang et al., 2021). In addition, a growing number of research analyzed issues, such as differences between hotels and Airbnbs in coping with COVID-19, the influence of local resources on the performance of Airbnb, and consumers' risk perception regarding using sharing accommodations before and after the pandemic (Jang and Kim, 2022). Similar to hotel research, a body of research focused on risk-reduction issues. For example, Airbnb has also introduced enhanced cleaning and social distancing procedures (e.g., increasing the time between guest stays) to reduce the risk of virus transmission (Farmaki et al., 2020; Airbnb, 2020). In addition, developing new insurance policies and treating Airbnb hosts as official employees have been proposed to deal with the crisis (Hossain, 2021). Table 1 explains risk reduction strategies adopted by hotels and Airbnb during the COVID-19 pandemic (e.g., Airbnb, 2020; Farmaki et al., 2020; Jiang and Wen, 2020; Shin and Kang, 2020).

[Table 1 should be here]

An important limitation of much of the recent literatures on hotel and Airbnb is that the pandemic is often regarded as something that is static, and not enough attention is paid to the evolving dynamic nature of COVID-19. Most research focused on the before or after pandemic contexts (e.g., Kim et al., 2021; Shin and Kang, 2020) and pandemic or no pandemic contexts (e.g., Bresciani et al., 2021; Kim et al., 2021). However, there have been several upward and downward COVID-19 trends in terms of case numbers throughout the pandemic (Worldmeter,

2021). This study proposes to examine how dynamic upward and downward COVID-19 trends influence accommodation selection behaviors for hotels and Airbnb.

2.2. Accommodation selection factors for hotel and Airbnb

Understanding which factors influence accommodation selection has been a center of scholarly attention in hospitality and tourism research. In particular, selecting an appropriate hotel entails a rather complicated decision-making process due to a lot of influential factors (Sohrabi et al., 2012). According to previous research, both tangible (e.g., cleanliness, location, amenities, and facilities) and intangible factors (e.g., brand, price-quality nexus, friendliness, responsiveness, online review, and safety) are thought to explain customer decision-making for hotels (e.g., Jiang and Wen, 2020; Mody et al., 2022; Shin et al., 2022; Zhang et al., 2015). More specifically, Sohrabi et al. (2012) divided the hotel selection factors into the two groups, such as hotel comfort factors (e.g., pleasure, network services, comfort, staff service, room facilities, car parking, and cleanliness) and hotel compensatory factors (e.g., expenditure, news and recreational information, and security).

Along with the growth of research on hotel decision-making, a body of research analyzed how travelers choose sharing economy accommodation options, such as Airbnb. While common factors (e.g., price, facilities, cleanliness, etc.) were identified as decision-making factors for Airbnb, some research identified unique factors (e.g., novelty, social interactions, authenticity, etc.) mainly considered by Airbnb customers in their decisions (e.g., Chi et al., 2021; Godovykh et al., 2022; Guttentag et al., 2018; So et al., 2018). In particular, unlike hotels, Airbnb customers are known to expect high levels of social interactions with local people or hosts, which can be a driving force that promotes choosing Airbnb over hotels (Jang et al., 2021; Tussyadiah and Pesonen, 2016; Zheng and Zhang, 2022). Since the business model of sharing business is based

on P2P transactions between hosts and guests (Guttentag, 2015), a large body of research emphasized a critical role of customer trust in decision-making (e.g., Ert and Fleischer, 2019; Ert et al., 2016; So et al., 2018; Tussyadiah and Park, 2018). These research studies found that high levels of guest trust in Airbnb hosts lead to either initial purchase or repurchase decisions.

2.3. Accommodation selection factors in the COVID-19 pandemic

Health-related crises, such as the COVID-19 pandemic have the potential to change factors that prospective travelers place emphasis on in their decision-making (Jang et al., 2021). For instance, prospective hotel customers are now much more concerned about hygiene and cleanliness when they select a hotel. Thus, making a safe environment by adopting advanced hygiene and protection measures is the highest priority to attract hotel customers in the pandemic era (Bonfanti et al., 2021; Sharma et al., 2021). Although customers are similarly concerned about safety and cleanliness when using Airbnb during the pandemic (Vinod and Sharma, 2021), the lack of standardization in sharing economy businesses compared to hotel brands can make Airbnb even more vulnerable to the pandemic, resulting in higher levels of safety concerns among prospective customers (Farmaki et al., 2020).

During the pandemic, the majority of travelers prefer accommodations where they can maintain physical distancing from others to minimize health risks (Airbnb, 2020; Farmaki et al., 2020). While hotel guests share some common areas (e.g., lobby, dining facilities, etc.) with other guests (Shin and Kang, 2020), Airbnb customers who choose entire flats can keep physical distancing with other guests. So et al. (2018) argued that more people rent full flats to ensure their privacy and have less social interaction with others during their stays in Airbnb. Bresciani et al. (2021) found that Airbnb customers prefer full flats over shared flats for ensuring physical

distancing during the pandemic. In fact, Airbnb also announced that more customers prefer full flats or private apartments than hotel rooms due to safety reasons (Airbnb, 2020).

Hypotheses Development

This study proposes to consider the evolution of COVID-19 and perceived health risk in analyzing accommodation selection behaviors. In the tourism and hospitality context, perceived health risk indicates tourists' or hospitality customers' perceived risk about physical health as a result of uncontrolled events during travels, such as terror related incidents, natural disasters, political unrests, and pandemics (Shin and Kang, 2020). While perceived health risk is a key determinant of accommodation decision-making during the pandemic (Shin and Kang, 2020), upward and downward trends of COVID-19 may result in different levels of health risk for travelers. When COVID-19 cases surge, travelers are more likely to be concerned about health risk whereas they are less concerned about health risk when COVID-19 cases are low. In this regard, the following hypothesis is suggested.

Hypothesis 1. Travelers will feel higher levels of health risk during an upward trend in COVID-19 compared with a downward trend in COVID-19.

Customers who pursue social benefits in their accommodation experiences are likely to be satisfied with Airbnb experiences when they stay in a private or shared room of cohabitated space (Tussyadiah, 2016). However, unlike in the case of shared flats, booking an entire flat with Airbnb assures lower levels of social interaction with hosts or other guests (Bresciani et al., 2021). In the era of COVID-19, minimized social interaction will be preferred for safety reasons in the sharing economy. While hotels may require customers to directly interact with staff or

indirectly contact with other customers, Airbnb full flats can guarantee higher levels of physical distancing (Tussyadiah, 2016). Given that physical distancing is a key factor considered by prospective customers for Airbnb during the pandemic (Hossain, 2021), full flats where customers can reduce health risk by minimizing personal contact with others will be preferred compared with hotels during an upward COVID-19 trend. On the other hand, travelers will be less concerned about health risk during a downward trend in COVID-19 cases, resulting in insignificant difference in choice behavior between hotels and Airbnb full flats.

Hypothesis 2. Compared to a downward COVID-19 trend, travelers will prefer Airbnb full flats to hotels in an upward COVID-19 trend.

To better understand how travelers choose low-risk accommodation options in the pandemic, it is important to understand the underlying mechanism of the perceived health risk and its influence on accommodation visit intentions. Recent studies investigated the role of safety concern about physical distancing as an important factor of the accommodation decision-making process. For example, Kim et al. (2021) identified a mediating role of concern regarding social distancing in the relationship between the salience of COVID-19 and the preference for robot-staffed hotels. Similarly, Bresciani et al. (2021) found that the need for physical distancing to ensure safety mediates the relationship between pandemic situations and accommodation selection behaviors. Given that guaranteeing safety is a key strategy for attracting customers in the pandemic time (Bonfanti et al., 2021), this study proposes that safety concern about physical interaction is an underlying psychological mechanism between perceived health risk and accommodation selection behaviors.

Hypothesis 3. Safety concern about physical interaction will mediate the relationship between perceived health risk and accommodation visit intentions, such that higher levels of perceived

health risk will increase safety concerns about physical interaction, which will lead to lower intentions to visit accommodations.

The widespread penetration of the internet has afforded consumers a convenient and low-cost instrument to learn about product and service offerings available to them. Given that prospective travelers tend to acquire travel-related information using online search engines (Jacobsen and Munar, 2012), one is inclined to believe that online search patterns are also likely to reflect which types of accommodation travelers prefer. The analysis of online search behavior has in recent years become a critical tool to understand consumer travel preferences (Ho et al., 2012). Today, travel information search is regarded as a fundamental theme in tourism research.

Even during the ongoing COVID-19 pandemic, the analysis of information search behavior has provided researchers with an important platform to investigate consumer decision-making. For instance, by analyzing real-time searches in Google Trends, Andruszkiewicz et al. (2020) found that most travelers search for information about domestic and local travels more than international travels during the pandemic. This search pattern supports the new COVID-19 travel trend characterized with domestic trips, nature-based destinations, and local travels closer to home.

There are, however, other aspects of pandemic related travel choices, including those associated with the objectives of this study, that may also be investigated by analyzing search patterns of prospective travelers. Recall that in developing previous hypotheses, we predicted that because physical distancing is one of the important considerations of prospective travelers for Airbnb during the COVID-19 crisis (Hossain, 2021), customers would prefer full flats where they would be able to reduce potential exposure by lowering contact with other people. Accordingly, the next set of hypotheses predict that customer preference for Airbnb during

riskier periods of the pandemic will not only be revealed in preferences stated in an experimental survey, but also in online consumer search patterns. Given that a majority of Airbnb flats are full flats including entire apartments and homes (Guttentag, 2015), the number of online searches for Airbnb will, in other words, reflect travelers' interest in Airbnb full flats. Thus, there will be a higher number of online searchers for Airbnb compared to the number of searches for hotels in upward COVID-19 trends. On the other hand, in COVID-19 downward trends, there will be no significant difference in online search patterns between hotels and Airbnb due to relatively lower levels of health risk; prospective travelers would have similar levels of interest in both types of accommodations in low risk periods.

Hypothesis 4. When there is an upward COVID-19 trend, the number of online searches for Airbnb highly increases compared to the number of searches for hotels.

Hypothesis 5. When there is a downward COVID-19 trend, there will be limited difference in online searches for Airbnb and hotels.

Hypotheses 6 and 7 are once again designed to probe the same objective of understanding consumer preferences between hotels and Airbnb during diverging stages of the pandemic, but using an approach that stems from the field of finance. In the last few years, finance-based approaches have become increasingly popular in tourism and hospitality domain, possibly because of the number of advantages the metrics used in finance are able to offer. Importantly, metrics like market value – the measure used to test hypotheses 6 and 7 below, are forward-looking, emerge almost instantaneously, and are less sensitive to issues of seasonality (Nicolau and Sharma, 2022). Under the seminal finance theory of efficient markets (Fama, 1970), the market value of a stock – and, more generally, the price of an asset - adjusts instantly to new information and reflects the discounted value of all future cash flows. What follows from this is

that when new information becomes available, the resulting impact can be quantified by the analysis of changes in the asset's price. In other words, an inquiry into changes in a company stock's price could be used as a vehicle to understand the extent to which a new development is pertinent to firm's expected future performance. Because several hotels as well as Airbnb are traded publicly on securities markets, the analysis of their stocks in response to COVID-19 related developments, including knowledge about pandemic trends, provides the optimal platform for such analysis.

In the context of the present study, shareholder perceptions should reflect those of potential consumers, as long as shareholders are sensitive to the new information on COVID-19 that is constantly being released. As previously described, we expect that consumers are motivated by their perceptions of safety in deciding between hotels and Airbnb during pandemic waves. In this regard, Airbnb offerings are likely to be associated with greater expectations of social distance. Consequently, a demand of Airbnb that is expected to be higher than that of hotels during upward trends of the pandemic. Under the aforementioned efficient market theory this preference of consumers would in turn be reflected in the stock price of Airbnb, and would in turn bring about a greater increase in the market value of Airbnb compared to hotels.

During downward periods of the pandemic, on the other hand, one expects that no differences would exist. Specifically, during downward trends of the pandemic, one expects that safety concerns are less of a priority, and consumers aren't specifically emphasizing preferences for social distancing to the same extent. Thus, we state the following two hypotheses designed from a finance perspective:

Hypothesis 6. When there is an upward COVID-19 trend, the market value of Airbnb should increase more than that of hotels.

Hypothesis 7. When there is a downward COVID-19 trend, there will be limited difference in the variation of the market value of Airbnb and hotels.

Study 1

Study 1 tests hypotheses 1, 2 and 3, and focuses on how prospective travelers choose between hotels and Airbnb in an upward or downward COVID-19 trend. A 2 (COVID-19 trends: upward vs. downward) x 2 (accommodation types: hotel vs. Airbnb full flat) between subject design was utilized to develop four hypothetical scenarios.

4.1. Methodological steps

One hundred sixty-five US participants were recruited from the Amazon Mechanical Turk platform for this study in November 2020. Participants were given a small monetary reward. Those who have stayed in hotels and Airbnb in the past two years were selected to join the experimental survey. Eighty-six participants were male (52.1%) and most participants were in their 30s (40.0%), 20s (36.4%), and 40s (18.8%).

We instructed the research participants to imagine that they are planning on booking an accommodation (hotel room vs. an Airbnb entire flat/apartment) for their vacation next month during the COVID-19 pandemic. To manipulate upward and downward COVID-19 trends, the reproduction number (R) was used as a proxy for the state of the pandemic. The R number indicates the direction of infectious disease evolution; if an R value is greater than 1, the epidemic is growing whereas the R value lower than 1 indicates the epidemic is shrinking. Given that the R number has changed throughout the pandemic ranging from 0.5 to 1.5 (UK Government, 2021), this study used the R value of 1.4 for manipulating the upward COVID-19

trend and the R value of 0.6 for manipulating the downward COVID-19 trend to keep the equal difference of 0.4 from the value of 1 in both scenarios. Certainly, in the real world, prospective travelers may not use or even be aware of the R number when making decisions. One certainly expects, however, that consumers do take into account the state of the pandemic in decision making. The R-number as used simply serves as quantitative proxy for the more general concept that is the state of the pandemic. As a quantitative indicator, the R-number then facilitates statistical analysis.

The rest information was identical: average rate of $160 for Airbnb and hotel rooms and average review rating of 4.5 were proposed in all scenarios (Bresciani et al., 2021). After reading each scenario, participants answered questions on health risk perception, safety concern about physical interaction, and accommodation booking intentions. After that, they answered realism check questions and some demographic questions on age, gender, and the frequency of using hotels or Airbnb. We found that demographic factors have no significant impact on the study results. In the middle of the experiment, we included three questions for attention checks; those who failed to correctly answer the questions were regarded as careless responses and excluded accordingly (e.g., “For this question, you should choose YES,” “What color is grass – Green / Purple,” “We want to test your attention, so please click on the answer Agree.”)

Measurement items were developed by adopting seven-point Likert scales. Perceived health risk was measured by slightly modifying the existing three items drawn from existing studies (Quintal et al., 2010; Shin and Kang, 2020) (e.g., “I feel nervous about traveling because of health risks”). To measure safety concern about physical interaction, three items were used by adopting existing items (Bresciani et al., 2021; Kim et al., 2021) (e.g., “In my visit to the hotel, I am concerned about physical contacts with other guests or staff”). Lastly, three items (Chan et

al., 2017; Shin and Kang, 2020) were used to measure accommodation visit intentions (e.g., "It is likely that I would book the hotel room"). All items of the three constructs were reliable: perceived health risk: $\alpha = 0.85$, safety concern about physical interaction: $\alpha = 0.89$, accommodation booking intentions: $\alpha = 0.95$). Detailed item descriptions are updated in Appendix I.

4.2. Results

The realism of the hypothetical scenarios was tested by comparing the mean score (5.66) of the realism items (e.g., "how realistic was the provided scenario?") with the value of 4. The results indicate that the proposed scenarios are highly realistic: $t(164) = 24.37$, $p < 0.01$. No significant difference between the four scenarios was found: $F(1, 161) = 2.113$, $p = 0.15$.

To test the manipulation effects, the impact of COVID-19 scenarios on perceived health risk was analyzed using SPSS version 26. We found significant impact of the upward and downward COVID-19 trends on perceived health risk: upward trend ($M = 5.70$, $SD = 0.91$) and downward trend ($M = 4.74$, $SD = 1.09$); $F(1,161) = 37.94$, $p < 0.01$, $n_p^2 = 0.19$. No significant interaction effect with accommodation types was found: $F(1,161) = 1.57$, $p = 0.21$, $n_p^2 = 0.01$. The results indicate that participants perceived higher levels of health risk in the upward COVID-19 scenario whereas they perceived lower levels of health risk in the downward COVID-19 scenario. In terms of the impact of COVID-19 trends and accommodation types on accommodation booking intentions, a significant interaction effect was found: $F(1,161) = 17.11$, $p < 0.01$, $n_p^2 = 0.10$. As shown in Figure 2, in downward COVID-19 trends, there is no significant difference in accommodation visit intentions between hotels and Airbnb full flats. On the other hand, the visit intentions to Airbnb full flats ($M = 4.52$, $SD = 1.34$) was significantly

higher than the visit intentions to hotels (M = 2.80, SD = 1.54) in upward COVID-19 trends. Thus, hypothesis 1 and 2 were supported.

[Figure 2 should be here]

To test the mediating role of safety concern about physical interaction in the linkage between perceived health risk and accommodation visit intentions, the bootstrapping test was conducted by using the PROCESS model 4 of SPSS (n=5,000, Hayes, 2013). The PROCESS model is an efficient method to test mediation and moderation effects by constructing bias corrected and percentile based bootstrap confidence intervals for indirect and direct effects in mediation models (Hayes, 2009). It was found that perceived health risk has a significant and positive impact on safety concern about physical interaction: b = 0.56, t = 7.04, $p < 0.01$. Safety concern about physical interaction had a significant and negative impact on accommodation visit intentions: b = -0.37, t = -3.83, $p < 0.01$. The negative and significant indirect effect of safety concern about physical interaction between perceived health risk and accommodation visit intentions was found; b = -0.20, bootstrap 95% confidence interval [CI]: -0.37, -0.09. This result shows that when individuals feel higher levels of safety concern about physical interaction due to higher levels of perceived health risk, they are less likely to visit accommodations (see Figure 3). Thus, hypothesis 3 was supported.

[Figure 3 should be here]

4.3. Additional analysis

To provide further empirical insight into the role of safety concern about physical interaction in accommodation decision-making processes, additional analysis was conducted to

examine how COVID-19 trends and accommodation types influence travelers' safety concern about physical interaction. We found that both factors have significant impacts on the safety concern: COVID-19 trends $F(1,161) = 11.43$, $p < 0.01$, $n_p^2 = 0.07$, accommodation types $F(1,161) = 9.28$, $p < 0.01$, $n_p^2 = 0.05$. While there was no significant interaction impact of both factors on accommodation visit intentions; $F(1,161) = 2.10$, $p = 0.15$, $n_p^2 = 0.01$, there was a greater difference in the mean value of safety concern between hotels ($M = 5.90$, $SD = 1.02$) and Airbnb full flats ($M = 5.05$, $SD = 1.43$) in an upward COVID-19 trend. On the other hand, there was a lesser difference between hotels ($M = 4.99$, $SD = 1.18$) and Airbnb full flats ($M = 4.69$, $SD = 1.13$) in a downward COVID-19 trend. As shown in Figure 4, this pattern indicates that individuals feel higher levels of safety concern about physical interaction for hotels compared to Airbnb full flats during upward COVID-19 trends. However, they perceive relatively lower levels of safety concern for both accommodations in downward trends.

[Figure 4 should be here]

Study 2

5.1. Methodological steps

Study 2 of this paper tests hypotheses 4 and 5, and was designed to examine how online search behavior of consumers related to the pandemic's trends. Since the turn of the century the penetration of the internet has grown considerably (Internet World Stats, 2020), making the analysis internet search behavior an increasingly useful medium for researchers seeking to understand evolving consumer preferences (see Peterson and Merino, 2003). The examination of online search behavior is also well established within the tourism literature (Gretzel et al., 2019),

and has in recent years served as an important mechanism that helped discern some of the nuances of tourism choice behavior and decision making.

Exploiting web search data from one wave of the pandemic in the United States for the 10-week period ending February 18th, 2021, the present study adapts Nicolau, Kim and Liu's (2020) search value model (SVM) to understand the effects of pandemic trends on consumer preferences relating to hotels and Airbnb. The SVM study used here is based on the Karafiath's (1988) approach – a procedure which involves the introduction of a vector of (0,1) dummy variables D_t that are added to the standard market model such that the variable assumes a value of 1 on event day and 0 otherwise. The standard market model is adjusted based on a vector of metrics that are indicative of the pandemic's trend in the United States. These metrics include both recent trends (last 7 days, week prior to last 7 days) pandemic numbers indicative of trends as well as cumulative statistics relating to COVID-19 related deaths and hospitalizations. The SVM assumes the following form for each accommodation type:

$$SVI_{t,AirBnb} = \alpha_i + \beta_i SVI_{t,Average} + \varepsilon_t$$

$$SVI_{t,Hotel\ Brands} = \alpha_i + \beta_i SVI_{t,Hotel} + \varepsilon_t$$

where $SVI_{t,AirBnb}$ and $SVI_{t,Hotel\ Brands}$ are the search volume indexes for Airbnb and the average of the eight hotel brands analyzed , respectively on day *t*. $SVI_{t,Average}$ is the average search volume indexes of Airbnb and the hotel brands considered, and $SVI_{t,Hotel}$ is the search volume index of the word "hotel" with no specific brand. α_i denotes the average value of the search volume index independent of search trends, β_i shows Airbnb's and hotels' "sensitivity" to the respective generic search volume indexes, and ε_t is the error term that shows the discrepancies between the real search volume index for Airbnb and hotels on day *t* and their expected search volume index. In order to

capture these discrepancies, we add a COVID-19-variable that shows the evolution of the pandemic.

$$SVI_t = \alpha_i + \beta_i SVI_t + \delta_j x_{jt} + \varepsilon_t$$

where x_j shows the daily index of the COVID-19-related variable and δ_j reflects its effect on the search value index.

5.2. Results

Analysis was conducted using the EVIEWS statistical software, and the main results are summarized in Table 2. We see that when the COVID-19-related variables exert a positive effect on hotel searches, the same happens to Airbnb. Nevertheless, more interesting are the discrepancies when this effect is negative for hotels and positive or null for Airbnb. We find that in some cases, the same variable relating to pandemic trends can exert a very different effect on hotels and Airbnb, suggesting that the recent course of the pandemic can dissimilarly impact consumer preferences for hotels and Airbnb. The seven-day average of new hospitalizations, for instance, has a negative and statistically significant effect on hotels (-0.0032, SD = 0.0013), but a positive effect for Airbnb (0.0031, SD = 0.0018). This suggests that an increase in recent hospitalizations results in a preference for Airbnb. There are also other aspects of the pandemic's trends that induce disparate behavioral responses for consumers with regard to accommodation preferences. Included amongst these are several metrics that have a negative effect on hotels but no impact on Airbnb searches. Amongst examples of these are the variables that describe hospitalizations for the week prior to the most recent week, current number of people hospitalized, positivity rate for the most recently concluding week as week, as well as average positivity rate for the days prior to the most current week. The findings of the SVM indicate that

upward pandemic trends deter consumers away from hotels. At times Airbnb may actually benefit from the increased presumed levels of consumer anxiety regarding hotels – such as when hospitalizations are increasing, but at other times, no effect is observed for Airbnb. Overall, these results suggest that there is support for hypotheses 4 and 5.

[Table 2 should be here]

Study 3

6.1. Methodological Steps

Whereas Study 1 data was directly collected from consumers, data for Study 2 was collected from online search behavior of consumers. An important question issue, however – neither of these studies considers that a time gap typically exists between the date of booking and date of travel. In order to address this issue, an alternative metric would be needed. The recent change in the listing status of Airbnb from a private to a publicly traded company offers a host of additional analytical dimensions when investigating the many impacts of the burgeoning peer to peer accommodations market. Among the methodological options that have become available to researchers because of this change in the company's status are those that are associated with the analysis of market value – a measure of performance reflected in the stock returns of public companies.

The event study methodology (ESM) deployed below exploits data from the securities markets to compare market value related effects resulting from some of the evolving pandemic related indicators on the market value of hotels and Airbnb. Market value is a forward-looking metric that, under the tenets of the neoclassical economics principle of efficient markets, reflects

the discounted value of all future cash flows. Because infinite future time periods are being discounted to the present, the fact that there might be a gap between booking date and travel date is rendered trivial when using the event study approach. Indeed, changes in market value as a result of changes in pandemic trends would not occur when actual travel occurs, but rather when the pandemic trends themselves change. It is these changes in market value – that would occur with changes in pandemic trends – that Study 3 captures using the event study methodology. Moreover, whereas Studies 1 and 2 explored direct consumer stated responses and online consumer search behavior respectively, Study 3 realizes the same objectives from the perspective of travel firms.

The pandemic indicators are the same as those used in Study 2 of this paper. Using the same indicators allows more effectively contrast effects ascertained using the event study model below with those found using the search value model used in Study 2. As such, the pandemic markers included in the proposed model are those that are indicative of recent trends (recent COVID-19 deaths, recent COVID-19 hospitalizations), as well as those that characterize the pandemic's cumulative impact. For the same reason, the same time period of data was also used.

Accordingly, we begin with the standard market model:

$$R_{it} = \alpha_i + \beta_i R_{mt} + \varepsilon_{it}$$

where R_{it} defines the returns for firm i on day t, and R_{mt} represents returns on the market index on day t. Parameters α_i and β_i are used to define the constant and the systematic risk on i, whereas e_{it} is the error term. Introducing dummy variable x_t based on Karafiath's approach (as in the SVM in Study 2) described above, we have:

$$R_{it} = \alpha_i + \beta_i R_{mt} + \gamma_j x_{jt} + \varepsilon_{it}$$

where γ reflects the impact of a specific indicator of pandemic trend on the returns. Accordingly, abnormal returns, if any, will be captured by this parameter.

6.2. Results

Like in Study 2, the EVIEWS statistical software was used for this study**.** The results for the event study are summarized in Table 3. Interestingly, the findings show that no variable related to pandemic trends is significant in either accommodation type. It seems that shareholders have become insensitive to these magnitudes and do not pay attention to frequent disclosure of COVID-19-related information. These results contrast the results obtained in Study 2 in which several variables were significant, meaning that different angles are captured by these two models: shareholders are less sensitive to COVID-19-related information than users of either accommodation type. These results do not support hypotheses 6 and 7.

[Table 3 should be here]

Discussion and Conclusions

7.1. Conclusions

Given that customer accommodation experiences need be redesigned in the pandemic age, this study attempts to understand decision making of prospective travelers with regards to upward and downward COVID-19 trends. The results show that travelers prefer Airbnb full flats

to hotels when they perceive higher levels of health risk in an upward COVID-19 trend. Safety concern about physical interaction negatively mediates the relationship between perceived health risk and accommodation booking intentions. In addition, the higher number of online searches for Airbnb than the number of searches for hotels in an upward COVID trend externally validates travelers' preference for Airbnb full flats in high risk periods. Interestingly, shareholder perceptions—and their reactions on the stock market for that matter—do not reflect those of potential consumers; it seems that shareholders have become insensitive to the new COVID related information that is constantly being released.

7.2. Theoretical implications

This study makes several important theoretical implications. First, this is one of initial studies that empirically examine Airbnb customers' decision-making behaviors in the context of the COVID-19 pandemic's trends. While most recent studies have paid attention to hotel customers' choice behaviors during the pandemic (e.g., Kim et al., 2021; Shin and Kang, 2020), there has been relatively scarce knowledge on how Airbnb customers make decisions in uncertain times. In addition, unlike the historical focus on either hotel or Airbnb decision-making (e.g., Bonfanti et al., 2021; Guttentag et al., 2018; So et al., 2018), this study provides a comparative empirical insight into the impact of pandemic on both Airbnb and hotel choice behaviors. The study result demonstrates the unique nature of Airbnb compared to hotels by examining how isolated and independent full flats of Airbnb can appeal to prospective travelers during the pandemic.

Second, while most existing research analyzed the negative impact of the pandemic on the Airbnb market (e.g., Dolnicar and Zare, 2020; Hossain, 2021), this study found that its impact depends on the nature of Airbnb room types. Unlike hotels and other traditional

accommodations, social interactions with other customers or local people (e.g., local hosts or residents) through P2P platforms has been the driving force of the sharing economy (Jang et al., 2021; Tussyadiah and Pesonen, 2016). However, not all Airbnb customers pursue social interactions in their experiences. Tussyadiah (2016) found that perceived social benefit leads to higher levels of satisfaction for customers staying in a private Airbnb room whereas it results in a negative impact on guest satisfaction among those who stay in Airbnb accommodations where they have the entire place to themselves. Building on the results about social benefits of Airbnb, this study shows that the lack of social interactions through Airbnb full flats can be a determining factors for accommodation sections in the pandemic context.

Some experts argued that the risk involved in P2P sharing can promote the end of sharing economy businesses in the pandemic age (Hossain, 2021). However, the results of this study support the positive view towards the sharing economy and Airbnb in the global health crisis (Vinod and Sharma, 2021). Specifically, following the recent finding that travelers prefer Airbnb full flats to Airbnb shared flats and hotel rooms due to physical distancing (Bresciani et al., 2021), this study adds empirical evidence to the optimistic view that travelers will prefer to ensure their safety against physical contact by choosing accommodations where they can be separated from others (Farmaki et al., 2020). This study provides an empirical evidence that Airbnb is more preferred than hotels when high levels of health risk exist.

In addition, while most existing research on COVID-19 pandemic assumed the pandemic as a static phenomenon (e.g., Bresciani et al., 2021; Kim et al., 2021; Shin and Kang, 2020), this study provides a dynamic view on how the evolution of the pandemic influences accommodation choice behaviors. This study considers the pandemic in its dynamic and evolutionary form and finds that people have higher levels of perceived health risk in upward COVID-19 trends

whereas they have lower levels of perceived health risk in downward COVID-19 trends. By identifying dissimilar patterns of accommodation choice behaviors due to different levels of perceived health risk in COVID-19 trends, this study provides more nuanced insight into accommodation decision-making behaviors in the pandemic.

Third, this study investigated a psychological mechanism of accommodation selection behaviors. The mediating role of safety concern about physical interaction supports the findings by Bresciani et al. (2021) and Kim et al. (2021). In addition, contrary to previous research that does not find a significant role of perceived risk in Airbnb decision making (e.g., So et al., 2018), the current study found that perceived health risk is an important predictor for Airbnb and hotel choice behaviors during the pandemic. While Airbnb customers are known to make certain risky decisions such as deciding to stay in the home of strangers or when sharing accommodations for fun and novelty factors, this study shows that they behave in a different way in terms of health risk.

Lastly, the present study methodologically contributes to experimental studies by adopting a mixed method approach. Unlike most previous experimental studies (e.g., Bresciani et al., 2021; Kim et al., 2021), this study attempts to improve not only internal validity of study findings via experimental analysis but also external validity of the findings by analyzing actual customers' online search patterns for accommodations. The results of the analyses strongly support the proposition that upward COVID-19 trends motivate travelers to choose Airbnb (and in particular full flats) instead of hotels with the purpose of ensuring their safety against physical contacts during their stays.

7.3. Practical implications

Airbnb management and hosts need to acknowledge that the social benefit of Airbnb experiences, which has been the selling point of Airbnb compared to hotels and other traditional accommodations, is not a main source of attracting customers in the pandemic age. Specifically, private apartments or independent flats of Airbnb will be an ideal type of accommodation especially during high risky seasons. Thus, Airbnb management teams may need to provide further full flat properties and focus their promotion or marketing campaigns on independent or private flats when prospective travelers perceive high levels of health risk. In addition, Airbnb needs to ensure customers safety by minimizing physical contact with hosts and other guests. Providing these "untact" services to Airbnb guests should be prioritized when the infection risk is high.

In the same vein, hotel practitioners need to make sure that their guests are safe and protected from the risk of COVID-19 (Bonfanti et al., 2021; Jiang and Wen, 2020). Reducing travelers' concern about physical interaction will be critical for attracting customers not only to Airbnb but also to hotels. While hotels need to redesign their properties and provide different customer services, especially in COVID-19 upward trends, they may redesign the flow of human traffic within properties and introduce contactless technologies and private services (e.g., private breakfast, private dinner services, etc.) for customers to compete with Airbnb (Shin and Kang, 2020). Hotels need to prepare different managerial strategies depending on the evolution of the pandemic to provide safe services.

7.4. Limitations and future research

Some limitations of this study can be an avenue for future research. First, future research needs to consider the role of socio-demographic factors in accommodation selection behaviors. For example, younger consumers are more likely to use Airbnb during and after the pandemic (Vinod and Sharma, 2021). Travelers with high levels of sensation-seeking may be less likely to consider Airbnb room types in their trips (Jang et al., 2021). In addition, it has previously been shown that women are more reluctant to choose Airbnb shared flats (Bresciani et al., 2021). Analyzing how those factors influence Airbnb choice behaviors will help better understand how the pandemic influences accommodation decision-making behaviors. In addition, the role of other factors, such as travel motivations, time of booking, hotels' management strategies to deal with contagious diseases, lockdown measures, and the location of accommodation, can also be investigated in future research.

Second, future research needs to extend the dynamic view toward the COVID-19 pandemic. While this study initially proposed and examined how both upward and downward COVID-19 trends influence accommodation choice behaviors, it will be worthwhile to adopt a longitudinal approach to analyze the linkage between COVID-19 evolution and changes in customer decision-making behaviors in hospitality and tourism. In addition, the dynamic view can also extend to analyze the relationships of sharing economy and hotels. While sharing economy accommodation platforms have become the major threat to traditional hotels, their impacts on hotels will be even further critical in health crises. Future research needs to analyze how Airbnb's strategies influence hotels and how hotel systems respond to the sharing economy in uncertain times.

Finally, the authors would like to stress that the results of this study should be cautiously applied to the context of the COVID-19 pandemic, which is an unprecedented global health

crisis. The results of Study 1 hold only to the extent that the R-value serves as a satisfactory proxy for the state of the pandemic. We also note that in Study 1, we chose locations where there were no travel official restrictions and therefore travel decision making was largely left to individuals. Nonetheless, even if no official restrictions were in place, it is still likely that strong travel advisories remained, and might have influenced travel decision making. Similarly, with Study 2 we assume that preferences underlying online search behavior manifest themselves in actual purchase behavior. And the results of Study 3, like those of other financial event studies, are only valid to the extent that markets are efficient. Further research that analyzes the impact of pandemic evolutions on accommodation decision-making behaviors will improve the external validity of the study results.

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Appendix I. Study 1 Item Descriptions

1. Perceived Health Risk

- I feel nervous about traveling because of health risks.
- Traveling is a risky decision for my health.
- There is a high probability that traveling would lead to a health problem.

2. Safety concerns about physical interaction

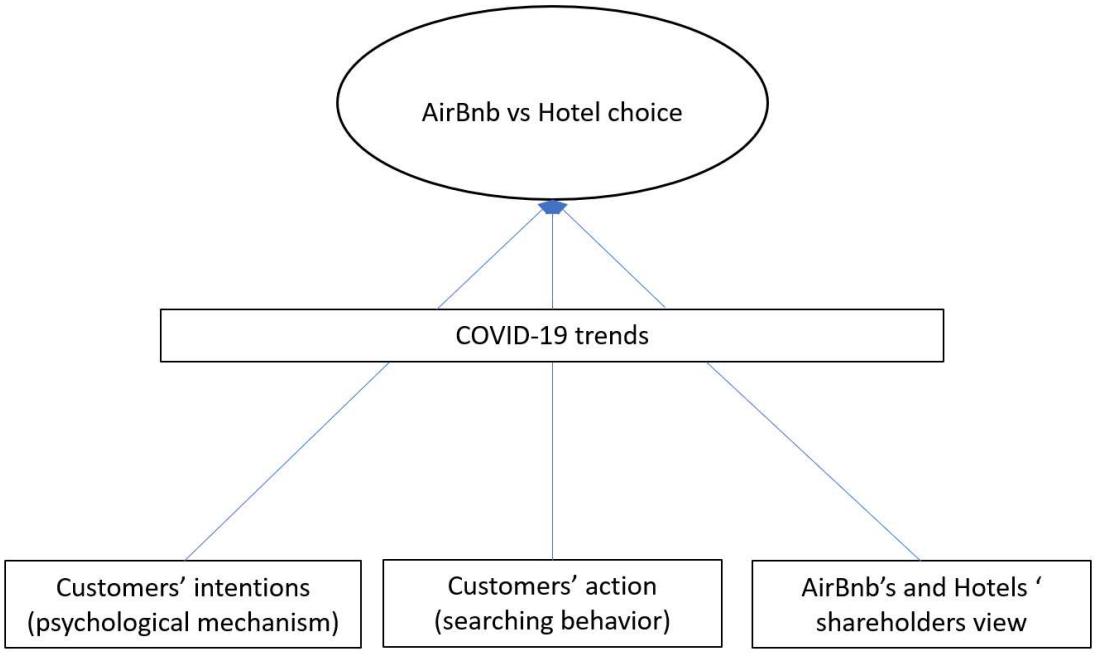
In my visit to the hotel (Airbnb)

- I am concerned about physical contacts with other guests or staff.
- I am worried about social distancing from others.
- I feel uncomfortable about close contact with others.

3. Accommodation visit intention

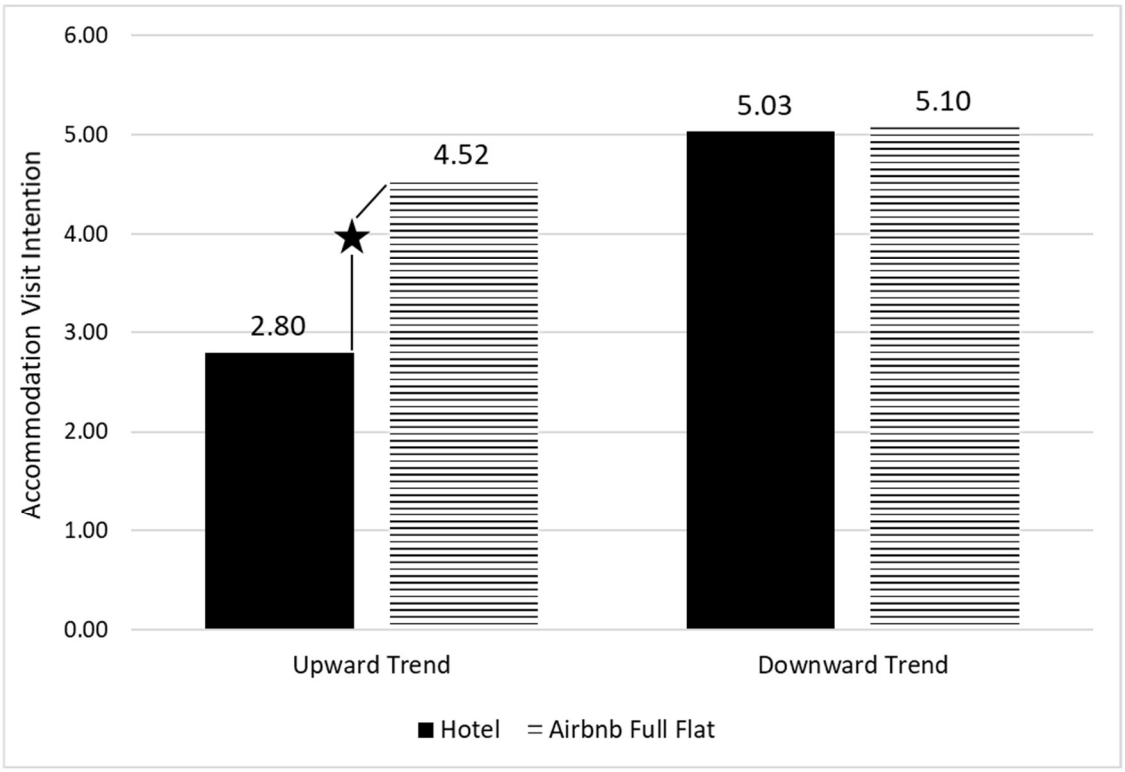
After reading the scenario,

- It is likely that I would book the hotel room.
- I am willing to book a room at the hotel.
- I would intend to book the hotel room.



Source: Authors own creation

Figure 1. Research Framework



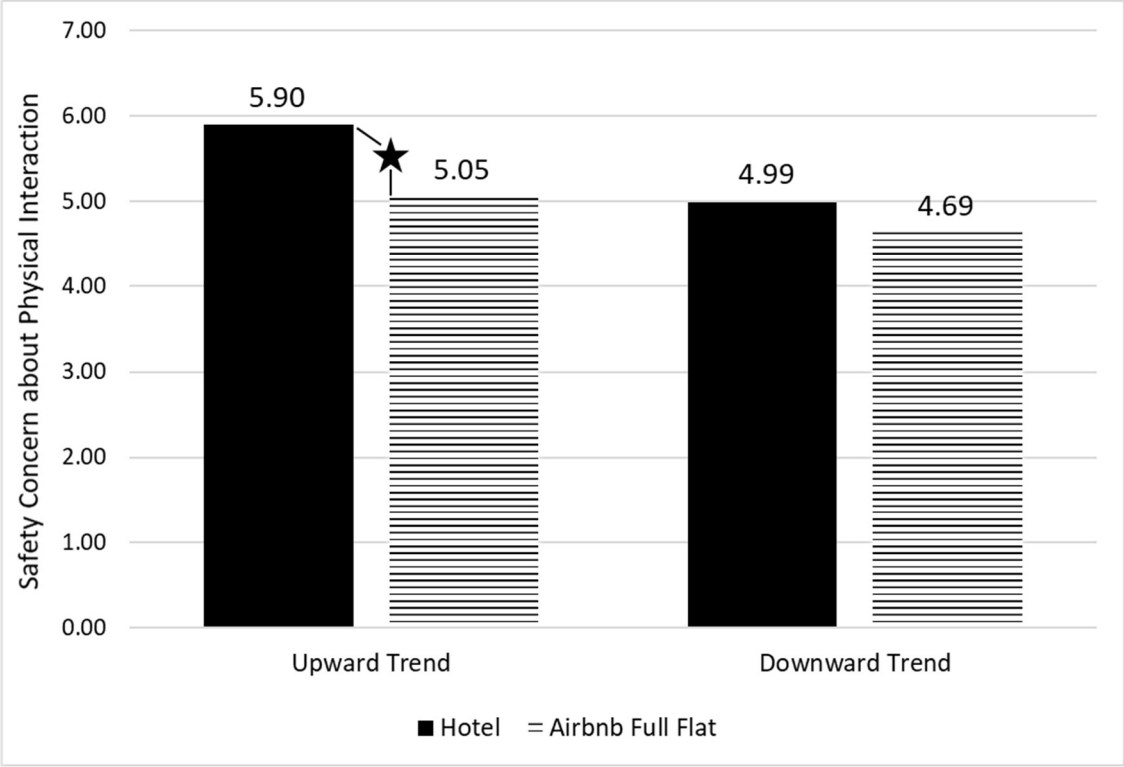
Source: Authors own creation

Figure 2. The impact of COVID-19 trends and accommodation types on accommodation visit intentions

Indirect effect: b = -0.20, bootstrap 95% confidence interval [CI]: -0.37, -0.09.

Source: Authors own creation

Figure 3. Mediation effects of safety concern about physical interaction



Source: Authors own creation

Figure 4. The impact of COVID-19 trends and accommodation types on safety concern about physical interaction

Table 1: Risk Reduction Strategies by Hotels and Airbnb

	Hotels	Airbnb
Risk reduction strategies in the COVID-19 pandemic	• Using new cleaning tools (e.g., UV equipment or electrostatic sprayers) to ensure an elevated level of cleaning • Establishing new cleanliness guideline • Training staffs for handling crises and following new protocols • Providing contactless services (e.g., F&B, check-in, etc.) • Using artificial intelligence (AI) and robotics to minimize social interactions between customers and employees	• Introducing new social distancing strategies to reduce infection risks • Providing new guidelines to help hosts clean and sanitize shared properties • Introducing self-check in to minimize interactions with hosts • Developing and implementing new insurance policies for guests • Promoting bookings for entire flats or private apartment properties

Source: Authors own creation

Table 2: Search Value Model (SVM) Results

Variables	AirBnb			Hotels		
	Parameters	SD	R^2	Parameters	SD	R^2
Constant	32.0453a	6.8596	0.4474	13.0698a	3.7053	0.7215
Market index	0.5362a	0.1687		0.3873a	0.0593	
Death (cumulative)	0.00004c	0.00002		0.00005a	0.00001	
Constant	19.6007a	8.2557	0.4853	10.3235c	5.4327	0.6736
Market Index	0.6401a	0.1164		0.5351a	0.0514	
Death (new, 7-day average)	0.0080a	0.0027		0.0057a	0.0018	
Constant	27.4842a	7.4008	0.4575	15.3103a	4.5071	0.6646
Market Index	0.6186a	0.1309		0.4948a	0.0565	
Death (average days -14 to -8)	0.0059b	0.0027		0.0049a	0.0017	
Constant	32.8725a	7.2879	0.4216	25.3046a	3.5345	0.6212
Market Index	0.7994a	0.1185		0.5589a	0.0586	
Log(deaths previous week avg / deaths prior week avg)	6.0813	8.8421	0.4179	-1.3550	6.3277	0.6210
Constant	12.7214	14.3468	0.4428	44.1873a	8.2572	0.6543
Market Index	0.9486a	0.1499		0.4341a	0.0734	
Hospitalized (new, 7-day average)	0.0031c	0.0018		-0.0032b	0.0013	
Constant	16.0947	15.3504	0.4331	40.4991a	9.5344	0.6375
Market Index	0.8895a	0.1408		0.4828a	0.0710	
Hospitalized (average days -14 to -8)	0.0030	0.0022		-0.0028c	0.0016	
Constant	32.3497a	7.2622	0.4249	26.2907a	3.3310	0.6311
Market Index	0.8174a	0.1219		0.5346a	0.0580	
Log(hospitalizations previous week avg / hospitalizations prior week avg)	6.2310	6.8001		-6.2725	4.6821	
Constant	19.8042	13.6892	0.4309	39.6575a	7.9936	0.6427
Market Index	0.8882a	0.1445		0.4677a	0.0715	
Hospitalized (currently)	0.0001	0.0001		-0.0001b	0.00004	
Constant	19.6174b	9.0548	0.4653	0.8859	5.6375	0.7233

Market Index	0.4925a	0.1600		0.4084a	0.0563	
Hospitalized (cumulative)	0.00004b	0.00001		0.00004a	0.00001	
Constant	31.4158a	6.6711	0.4742	13.5303a	3.6368	0.7220
Market Index	0.4774a	0.1559		0.4174a	0.0556	
Positive	9E-06a	3E-06		8E-06a	1E-06	
Constant	38.6612a	10.7858	0.4197	33.6171a	5.4773	0.6413
Market Index	0.7348a	0.1394		0.4911a	0.0651	
Positive (increase)	9E-05	3E-06		-0.00002c	1E-06	
Constant	27.6587a	7.4049	0.4559	8.2657c	4.3866	0.7234
Market Index	0.5084a	0.1660		0.3937a	0.0581	
Total test results	8E-07b	3E-07		9E-07a	1E-07	
Constant	30.3162b	11.8235	0.4191	34.3025a	6.4905	0.6360
Market Index	0.7972a	0.1240		0.5284a	0.0576	
Total test results increase	1E-05	3E-05		-4E-05c	2E-05	
Constant	39.2789a	10.5878	0.4206	31.6008a	5.6353	0.6323
Market Index	0.7335a	0.1335		0.5139a	0.0641	
Positive rate	-23.2180	39.1205		-38.5917	27.1787	
Constant	31.5407b	12.7239	0.4181	38.2596a	6.7761	0.6473
Market Index	0.8008a	0.1457		0.4681a	0.0682	
Positive rate (7-day average)	14.3329	51.5783		-76.9564b	34.9120	
Constant	16.0433	13.1158	0.4407	38.2079	7.6718	0.6406
Market Index	0.9057	0.1367		0.4854	0.0673	
Positive rate (days -14 to -8)	100.1397	60.9047		-81.9757c	43.4181	
Constant	38.0096a	7.3844	0.4311	26.3910a	3.3876	0.6296
Market Index	0.7060a	0.1253		0.5313a	0.0599	
Log(positive rate previous week avg / positive rate prior week avg)_	-10.2794	8.2335		-7.0394	5.6947	

Source: Authors own creation

Table 3: Market Model (Using Securities Data) Results

	Airbnb			Hotels		
Variables	**Parameters**	**SD**	**R^2**	**Parameters**	**SD**	**R^2**
Constant	0.0112	0.0501	0.0029	-0.0003	0.0122	0.4765
Market index	-0.3027	0.8920		1.3303a	0.2178	
Death (cumulative)	-9E-06	6E-06		2E-10	3E-7	
Constant	-0.0385	0.0644	0.0160	0.0037	0.0158	0.4773
Market Index	-0.1906	0.8990		1.3209a	0.2208	
Death (new, 7-day average)	1E-04	2E-04		-1E-05	5E-05	
Constant	-0.0016	0.0534	0.0038	-0.0002	0.0131	0.4765
Market Index	-0.3121	0.8927		1.3304a	0.2181	
Death (average days -14 to -8)	3E-05	1E-04		-7E-08	4E-06	
Constant	0.0076	0.0079	0.0112	0.0000	0.0019	0.4798
Market Index	-0.1885	0.9094		1.3060a	0.2223	
Log(deaths previous week avg / deaths prior week avg)	0.0379	0.0643		-0.0080	0.0157	
Constant	-0.0234	0.0412	0.018			
Market Index	-0.1545	0.9045		1.3204a	0.2224	
Hospitalized (new, 7-day average)	8E-05	1E-05		-5E-06	2E-05	
Constant	-0.0188	0.0581	0.0084	0.0033	0.0142	0.4773
Market Index	-0.3595	0.8971		1.3376a	0.2195	
Hospitalized (average days -14 to -8)	7E-05	1E-05		-9E-06	3E-05	
Constant	0.0102	0.0078	0.0112	-0.0003	0.0019	0.4767
Market Index	-0.1055	0.9496		1.3188a	0.2328	
Log(hospitalizations previous week avg / hospitalizations prior week avg)	0.0303	0.0515		-0.0018	0.0126	
Constant	-0.0066	0.0410	0.0064	-0.0004	0.0100	0.4765
Market Index	-0.2898	0.8911		1.3305a	0.2180	
Hospitalized (currently)	1E-06	3E-06		1E-08	9E-07	
Constant	0.0078	0.0771	0.0028	0.0002	0.0188	0.4765
Market Index	-0.3034	0.8920		1.3304a	0.2178	
Hospitalized (cumulative)	1E-08	1E-06		-6E-09	2E-07	
Constant	0.0075	0.0480	0.0028	0.0006	0.0117	0.4765
Market Index	-0.3034	0.8920		1.3304a	0.2178	

Positive	1E-09	2E-08		-3E-10	5E-09	
Constant	-0.0062	0.0237	0.0136	-0.0018	0.0058	0.4774
Market Index	-0.2948	0.8872		1.3312a	0.2176	
Positive (increase)	8E-07	1E-06		8E-08	3E-06	
Constant	0.0126	0.0603	0.0029	0.0001	0.0147	0.4765
Market Index	-0.3025	0.8920		1.3304a	0.2178	
Total test results	1E-10	2E-09		-1E-10	1E-09	
Constant	-0.0075	0.0513	0.0054	0.0107	0.0124	0.4864
Market Index	-0.2704	0.8966		1.3085a	0.2171	
Total test results increase	9E-08	2E-07		-6E-08	6E-08	
Constant	-0.0053	0.0273	0.0099	-0.0063	0.0066	0.4877
Market Index	-0.3164	0.8891		1.3248a	0.2155	
Positive rate	0.1452	0.2679		0.0615	0.0649	
Constant	-0.0033	0.0332	0.0063	0.0003	0.0081	0.4765
Market Index	-0.2872	0.8914		1.3296a	0.2180	
Positive rate (7-day average)	0.1219	0.3216		-0.0056	0.0787	
Constant	-0.0238	0.0436	0.0167	0.0036	0.0107	0.4781
Market Index	-0.2681	0.8869		1.3262a	0.2177	
Positive rate (days -14 to -8)	0.3089	0.4056		-0.0363	0.0996	
Constant	0.0079	0.0085	0.0045	0.0001	0.0021	0.4782
Market Index	-0.3086	0.8915		1.3322a	0.2175	
Log(positive rate previous week avg / positive rate prior week avg)_	-0.0159	0.0609		0.0055	0.0149	

Source: Authors own creation