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Research note

Post-COVID-19 behavior change in purchase of air tickets

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Introduction

COVID-19 is a crisis like few we have experienced before. Some compare the current pandemic to the Spanish Flu of 1918. However, in those days, the world was not as connected as it is now, and the economy was not as dependent then on global connectivity. Tourism has grown from being a marginal niche industry to one of the main industries worldwide, accounting for about 10% of global GDP (World Economic Forum, 2019). One of the activities of the tourism industry that has suffered the COVID-19 consequences the most has been air travel, which has seen a reduction of up to 90% in the number of daily flights (Eurocontrol, 2020). This has caused massive losses for airlines (International Civil Aviation Organization, 2020). This situation is not going to change in the short term because more than 50% of passengers have stated that, once the pandemic has subsided, they will take 6 months or more to travel (IATA, 2020). To make things worse, while returning to normality in many tourist activities will probably be relatively simple, this will likely not be the case for air travel. Several changes in safety policies including sanitary measures, boarding procedures, and the imposition of physical distancing, among other things, have been proposed. These measures could have a significant and continuing impact on airline operations and could change the dynamics of the industry moving forward.

Furthermore, while other sectors in the travel and tourism industry have historically been profitable, the airline industry has generally been only marginally profitable at best (Doganis, 2019). Several reasons can help to explain why airline business models are so fragile. One possible explanation is that many factors impact the industry (Shaw, 2016), including external factors such as fears surrounding terrorism and political instability, rising fuel costs, climate change and the Internet, as well as internal factors such as deregulation, labor costs, fierce competition and low-cost carriers.

Additionally, until the beginning of the COVID-19 crisis, tourists were used to booking and paying in advance for their travel services (e.g., airline tickets, hotel rooms, tours and other activities). In this sense, politicians, health experts, scientists, health or-
ganizations and media have repeated that COVID-19 is not going to disappear completely and that other pandemics may arise in the near future. Thus, in this scenario travelers cannot be sure that their purchases will meet their buying objectives, which affects their risk perception (Cox & Rich, 1964).

The theory of perceived risk (Bauer, 1960) can help understand how consumers’ behaviors could change under a situation such as the COVID-19. Perceived risk has been conceptualized in different ways (Mitchell, 1999). Uncertainty and unfavorable consequences are factors considered in many of these conceptualizations (Cunningham, 1967; Cunningham et al., 2005; Peter & Ryan, 1976). Perceived risk is usually considered as a multidimensional construct (e.g., physical, financial, time, and social risks, among others). Thus, it can be expected that, in the future, tourists might be more reluctant to book travel services far in advance of their travel dates due to a high risk perception in at least three dimensions: financial, psychological, and health (Seabra et al., 2014; Suau-Sanchez et al., 2020). Risk perception influences consumers purchasing decisions and, even in normal circumstances, this risk perception is usually high for travel products since these have a high price and constitute an important purchase for the consumer (Bettman, 1973).

Thus, travelers’ attitudes about their airline ticket purchasing behaviors may change. However, airlines’ business models (especially those of low-cost airlines) and revenue management strategies require that a certain percentage of users buy their tickets well in advance of their travel dates (e.g. 50% buying at least 2 months in advance of their departure date). For most airlines, the load factor (the proportion of seats output that are sold) has to be above 70% for the flight to be profitable (Florida Panhandle, 2020). If traveler behavior changes and travelers begin buying their tickets at a later stage of trip planning, this could have a significant impact on airlines’ accounts and on the point in time at which it will be clear whether or not a flight is going to be profitable.

One of the strategies of revenue management systems and pricing has consisted of offering cheaper prices to those willing to buy sooner, especially in the case of leisure travelers (Wen & Chen, 2017), who are more price sensitive than business travelers (Morlotti et al., 2017). The revenue management system then adjusts the price of tickets as the departure date approaches, with a price elasticity that takes into account the market response and its characteristics (Alderighi et al., 2016; Williams, 2020).

Based on the previous exposition, our research question is intended to test whether travelers plan to delay the purchase of their holiday airline tickets once the situation returns to normal. To that aim, this research note is structured as follows: first, we introduce the methodology we have used. Then, we explain the results obtained from the development of the methodology and we end with the discussion and conclusions, as well as implications for the sector.

Method

In order to answer our research question, we launched an online survey. First, we asked participants when they had purchased their air tickets for their main holiday trips in relation to their flight date in the last three to five years and when they expected to buy similar air tickets in the future once the situation returns to normality. Second, based on a 7-point rating scale, we asked individuals to state their agreement with possible solutions to the aftermath of the COVID-19 crisis related to the cancelation of air tickets, with government bail-outs for airlines, and with whether they understood that airlines were reluctant to reimburse customers for cancelled flights given the financial tensions airlines were facing. Last, we asked respondents about the perceived risk (from the health, psychological, working and financial dimensions) they thought will exist once the situation returned to normality, how they valued the behavior of airlines during the crisis, and how they valued the behavior of the government during the crisis regarding the management of airlines and the reimbursement of cancelled tickets.

The population of the study comprised individuals who were residents in Spain and have usually flown during their main holiday trips in the past few years. We followed a non-probabilistic convenience sampling procedure. Data were collected in June 2020 during which time Spain was returning to normality after the COVID-19 pandemic. We received 724 responses, out of which 96 were discarded for various reasons. Therefore, the final sample comprised 638 responses. 303 out of the 638 participants (47.5%) had purchased tickets for future travel when the state of alarm started in Spain (March 2020).

Results

In order to analyze whether or not users will change their purchasing behavior after the current health crisis is over, we compared the timeline in which users purchased their airline tickets in the past three to five years with the same respondents’ anticipated purchasing habits in the coming years once the situation returns to normality. Table 1 presents the comparison of past and anticipated future purchasing behaviors. The difference between the two behaviors were significant ($\chi^2 = 473.53$, $p = 0.00$).

There were no significant differences regarding age of the respondents. In the cases in which participants had already purchased a ticket before the state of alarm began, there were also no significant differences regarding the type of company they had purchased the ticket for (low-cost carrier vs. full-service network carrier) or regarding the price of the ticket they had purchased.

In order to better understand the changes in behavior, we grouped each of the 638 responses with the following results: 344 (53.9%) travelers stated that they would continue to buy in the same time frame (or, if they did not have a pattern in the past, they would continue to not have one in the future); 181 (28.4%) stated that they would buy closer to the departure date than in previous years; 31 (4.9%) stated that their holidays in the next few years would not include air travel, even if in previous years it had; 24 (3.8%) stated that they would buy earlier; 34 (5.3%) did not have a pattern in previous years but stated that they would...
It would also be interesting to analyze how airlines will use their revenue management systems to respond to the challenges that late bookings by travelers may pose, this traveler’s perception will influence their purchase behavior (Bauer, 1960; Cunningham, 1967; Mitchell, 1999). Particularly, travelers foresee buying their tickets closer to their departure date in the future. Around 28% of respondents stated that they plan to buy their tickets closer to their departure date, and another 5% stated that they will probably avoid purchasing tickets in advance. Most airlines allow a change in departure date, but do not provide a refund. This practice does not constitute an adequate risk mitigation strategy for airlines, since it is not a sustainable business model for the industry. The agreement with the practice of bailing out airlines by governments was medium (mean = 4.03, SD = 2.00).

Regarding risk, respondents agreed that this will be the norm in the next years, due to economic and sanitary uncertainties, respectively (mean = 5.24, SD = 1.27). They also agreed with the fact that governments should have adopted a more proactive role in relation to airlines and pending flights and tickets that had already been purchased (mean = 5.30, SD = 1.65). However, they were not especially critical with the actuation of airline companies (mean = 4.56, SD = 1.61).

### Discussion and conclusion

Travelers perceived that in the near future purchasing airline tickets will be characterized by a high risk. Based on what theory poses, this traveler’s perception will influence their purchase behavior (Bauer, 1960; Cunningham, 1967; Mitchell, 1999). Particularly, travelers foresee buying their tickets closer to their departure date in the future. Around 28% of respondents stated that they plan to buy their tickets closer to their departure date, and another 5% stated that they will probably avoid purchasing tickets in advance. The agreement with the practice of bailing out airlines by governments was medium (mean = 4.03, SD = 2.00).

Interestingly enough, the mentioned regulation already exists in Europe (EU 261 legislation): when a flight is cancelled, airlines must reimburse the customer in a maximum of seven days (European Union, n.d.). Nevertheless, it seems to not having influenced traveler’s risk perceptions. As in most cases when it comes to laws, it is not clear what customers should to do if a company does not fulfil this requirement. Airlines have been subject to tremendous financial stress, but so have customers. Many customers who had purchased their tickets in advance (34.3% of our sample) had done so more than three months in advance. We can assume that many of these customers purchased tickets within this timeframe in order to benefit from lower prices.

This research has been focused on the case of airline tickets, but we believe that our results will be applicable to the purchase of other tourist services, such as accommodation, tours and activities, and transfers. Every major subsector of the travel industry has been and will be affected by the pandemic (Sharma & Nicolau, 2020).

The role of governments seems to be especially important on how the situation unfolds. Governments can act in order to reduce the high risk that travelers foresee for the coming years regarding the purchase of airline tickets. Doing so could partly mitigate the detected change in consumer behavior. Given most airlines’ current business models and the thin margins on which these companies operate, a change in behavior like the one outlined in this research could have a significant impact on their viability. This research adds to the existing body of knowledge related to post-COVID-19 travel behavior changes, such as a decline in the intention to use public transport (Li et al., 2020) and an intention to delay taking holidays and flying after the pandemic is over (IATA, 2020; Li et al., 2020; Shamshiripour et al., 2020), among other possible changes.

This research also opens the door to future possible studies on this topic. In this sense, we believe it would be interesting to analyze how airlines will use their revenue management systems to respond to the challenges that late bookings by travelers may cause. It would also be interesting to confirm in greater depth whether certain actions by governments or airlines could help mitigate the changes in travelers’ behaviors that have been mentioned in this research. Last, while this research was done focusing on the purchase of the air ticket for the main holiday trip of the year, future studies could analyze if there are differences between business and leisure travelers.

### Table 1

| Type of advanced purchase | Last 3–5 years | In the future, once returned to normality |
|---------------------------|---------------|------------------------------------------|
| Less than one week        | 6 (0.94%)     | 8 (1.25%)                                |
| Between one week and one month | 71 (11.13%)   | 165 (25.86%)                             |
| One to three months      | 275 (43.10%)  | 280 (43.89%)                             |
| More than three months   | 219 (34.33%)  | 104 (16.30%)                             |
| No fixed pattern         | 67 (10.50%)   | 50 (7.84%)                               |
| Will not be flying       |               | 31 (4.86%)                               |
| Total                     | 638 (100%)    | 638 (100%)                               |
Declaration of competing interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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